

CITY OF CARTHAGE, TEXAS

DROUGHT CONTINGENCY PLAN

APRIL 2019

PREPARED BY:



TBPE FIRM REGISTRATION NO. F-1356

6781 Oak Hill Blvd.
Tyler, Texas 75703
(903) 581-8141
(888) 224-9418 fax
www.ksaeng.com

DROUGHT CONTINGENCY PLAN

TABLE OF CONTENTS

SECTION	PAGE
I. Declaration of Policy, Purpose, and Intent.....	1
II. Public Involvement	1
III. Public Education.....	1
IV. Coordination with Regional Water Planning Groups.....	1
V. Authorization	1
VI. Application.....	2
VII. Definitions	2
VIII. Criteria for Initiation and Termination of Drought Response Stages	3
Stage 1 Triggers – Mild Water Shortage Conditions	3
Stage 2 Triggers – Moderate Water Shortage Conditions.....	3
Stage 3 Triggers – Severe Water Shortage Conditions	4
Stage 4 Triggers – Critical Water Shortage Conditions.....	4
Stage 5 Triggers – Emergency Water Shortage Conditions.....	5
IX. Drought Response Stages	6
Stage 1 Response – Mild Water Shortage Conditions	6
Stage 2 Response – Moderate Water Shortage Conditions.....	7
Stage 3 Response – Severe Water Shortage Conditions	8
Stage 4 Response – Critical Water Shortage Conditions.....	8
Stage 5 Response – Emergency Water Shortage Conditions.....	9
Pro Rata Water Allocation.....	9
X. Enforcement.....	10
XI. Variances	10

DROUGHT CONTINGENCY PLAN

I. DECLARATION OF POLICY, PURPOSE, AND INTENT

In order to conserve the available water supply and/or to protect the integrity of water supply facilities, with particular regard for domestic water use, sanitation, and fire protection, and to protect and preserve public health, welfare, and safety and minimize the adverse impacts of water supply shortage or other water supply emergency conditions, the City of Carthage adopts the following Drought Contingency Plan (the Plan). The objective for water use reductions are:

- Reduce average per capita water consumption by 5% over the next 5 years.
- Reduce average per capita water consumption by 10% over the next 10 years.

II. PUBLIC INVOLVEMENT

The City will provide the opportunity for users to review, comment, and provide input in preparing the Plan through public notice. The City Manager will post a notice to the public at Carthage City Hall, 812 W. Panola, Carthage, Texas 75633. The notice will include the place(s), date(s), and time(s) where the Plan may be viewed and describe the method by which users may provide their comments and inputs.

III. PUBLIC EDUCATION

The public will be made aware of conservation and water shortage conditions by information and data transfer through the City's annual program. During periods of drought curtailment, Stage 1 condition establishes an information center, an information person, and utilize the most effective methods developed for information dissemination on a daily basis.

Close observation of the information program should develop the most effective ways to communicate with customers. Posting notices, newspaper articles, radio coverage, and direct mail to customers may be used.

IV. COORDINATION WITH REGIONAL WATER PLANNING GROUPS

The water service area of the City of Carthage is located within the Regional Planning Group I (East Texas) of the Texas Water Development Board. A copy of the plan will be provided to Regional Planning Group I to ensure consistency with the regional water plan.

V. AUTHORIZATION

The City Manager, or his/her designee is hereby authorized and directed to implement the applicable provisions of this Plan upon determination that such implementation is necessary to protect public health, safety, and welfare. The City Manager, or his/her designee shall have the authority to initiate or terminate water shortage or other water supply emergency response measures as described in this Plan.

Adoption of this Plan, Drought Contingency Ordinance, and modification of Plumbing Code Ordinance will enable the City to Implement and carry out enforcement of enacted ordinances to make the Plan effective and workable. The City Manager can add, delete, and amend rules, regulations, and implementation as needed, and shall advise City commission of such amendments at its next regular or called meeting.

VI: APPLICATION

The provisions of this Plan shall apply to all persons, customers, and property utilizing water provided by the City of Carthage. The terms person and customer as used in the Plan include individuals, corporations, partnerships, associations, and all other legal entities.

VII. DEFINITIONS

For the purposes of this Plan, the following definitions shall apply:

Aesthetic water use: water use for ornamental or decorative purposes such as fountains, reflecting pools, and water gardens.

Commercial and institutional water use: water use which is integral to the operations of commercial and non-profit establishments and governmental entities such as retail establishments, hotels and motels, restaurants, and office buildings.

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

Customer: any person, company, or organization using water supplied by the City of Carthage.

Domestic water use: water use for personal needs or for household or sanitary purposes such as drinking, bathing, heating, cooking, sanitation, or for cleaning a residence, business, industry, or institution.

Even number address: street addresses, box numbers, or rural postal route numbers ending in 0, 2, 4, 6, or 8 and locations without addresses.

Industrial water use: the use of water in processes designed to convert materials of lower value into forms having greater usability and value.

Landscape irrigation use: water used for the irrigation and maintenance of landscaped areas, whether publicly or privately owned, including residential and commercial lawns, gardens, golf courses, parks, and rights-of-way and medians.

Non-essential water use: water uses that are not essential nor required for the protection of public, health, safety, and welfare, including:

- (a) irrigation of landscape areas, including parks, athletic fields, and golf courses, except otherwise provided under this Plan;
- (b) use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle;
- (c) use of water to wash down any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas;
- (d) use of water to wash down buildings or structures for purposes other than immediate fire protection;
- (e) flushing gutters or permitting water to run or accumulate in any gutter or street;
- (f) use of water to fill, refill, or add to any indoor or outdoor swimming pools or Jacuzzi-type pools;
- (g) use of water in a fountain or pond for aesthetic or scenic purposes except where necessary to support aquatic life;
- (h) failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s); and
- (i) use of water from hydrants for construction purposes or any other purposes other than fire fighting.

Odd numbered address: street addresses, box numbers, or rural postal route numbers ending in 1, 3, 5, 7, or 9.

VIII. CRITERIA FOR INITIATION AND TERMINATION OF DROUGHT RESPONSE STAGES

The Texas Water Development Board suggests three levels or conditions for determining degree of urgency for initiation of Drought Contingency Plan. These five levels of water shortage conditions are as follows and relate to the City of Carthage system. Treated water is supplied from the City's 8.0 MGD water treatment plant with raw water obtained from Lake Murvaul.

Stage 1 Trigger - Mild Water Shortage Conditions:

Required for initiation:

- a. Average daily water consumption reaches 90% of the water treatment plant's production capacity for three consecutive days.
- b. Water level in Lake Murvaul is declining at a rate that could disrupt water supply in the future.
- c. Weather conditions are considered in drought classification determination. Predicted long, cold, or dry periods are to be considered in impact analysis.

Required for termination:

- a. Mild water shortage conditions may be terminated when no Stage 1 triggering criteria have occurred for a period of 9 consecutive days.

Stage 2 Trigger - Moderate Water Shortage Conditions:

Required for initiation:

- a. Average daily water consumption reaches 100% of the water treatment plant's production capacity for three consecutive days.
- b. Water levels in Lake Murvaul continue to decline or are declining at a rate that makes supply problems imminent.
- c. Weather conditions indicate mild drought will exist for five or more consecutive days.

Required for termination:

- a. Stage 2 moderate water shortage conditions may be reduced to Stage 1 mild water shortage conditions when no Stage 2 triggering criteria have occurred for a period of 7 consecutive days.

Stage 3 Trigger - Severe Water Shortage Conditions:

Required for initiation:

- a. Average daily water consumption reaches 110% of the water treatment plant's production capacity for three consecutive days.
- b. Water storage levels are drained daily and recover only during overnight periods of low demand.
- c. Lake Murvaul water levels have declined to the point where any additional loss of water will expose an intake point to the atmosphere.
- d. Lake Murvaul water levels have declined to the point where water withdraw is impeded.
- e. A clear well at the water treatment plant is taken out of service during a mild or moderate water shortage period.

Required for termination:

- a. Stage 3 severe water shortage conditions may be reduced to Stage 2 moderate water shortage conditions when no Stage 3 triggering criteria have occurred for a period of 5 consecutive days.

Stage 4 Trigger - Critical Water Shortage Conditions:

Required for initiation:

- a. Average daily water consumption reaches 115% of the water treatment plant's production capacity for any one day.

- b. Water storage levels do not fully recover even during overnight periods of low demand.
- c. Lake Murvaul water levels have declined to the point where water withdraw is impeded due to exposed water inlets on the intake structure.
- d. System demand exceeds available high service pump capacity.

Required for termination:

- a. Stage 4 critical water shortage conditions may be reduced to Stage 3 severe water shortage conditions when no Stage 4 triggering criteria have occurred for a period of 3 consecutive days.

Stage 5 Trigger - Emergency Water Shortage Conditions:

Required for initiation:

- a. Average daily water consumption reaches 120% of the water treatment plant's production capacity for any one day.
- b. Lake Murvaul water levels have declined to the point where water withdraw is impeded or equipment could be damaged by normal operation of water supply system facilities and equipment due to water supply deficiency.
- c. Water system is contaminated, either accidentally or intentionally. Severe condition is reached immediately upon detection.
- d. Water system fails -- from acts of God (tornados, hurricanes) or man. Severe condition is reached immediately upon detection.

Required for termination:

- a. Stage 5 emergency water shortage conditions may be reduced to Stage 4 critical water shortage conditions when no Stage 5 triggering criteria have occurred for a period of 1 day.

IX. DROUGHT RESPONSE STAGES

The City Manager, or his/her designee, shall monitor water supply and/or demand conditions on a daily basis and, in accordance with the triggering criteria set forth in Section VIII of this Plan, shall determine that a mild, moderate, severe, critical, or emergency water shortage condition exists and shall implement the following notification procedures:

Notification of the Public:

The City Manager or his/ her designee may notify the public by means of:

- Publication in a newspaper of general circulation
- Public service announcements
- Signs posted in public places

Additional Notification:

The City Manager or his/ her designee may notify directly, or cause to be notified directly, the following individuals and entities:

- Mayor
- Chairman and members of the City Council
- Fire Chief
- County Judge & Commissioner
- Public Works Director
- TCEQ
- Major water users
- Critical water users

Stage 1 Response - Mild Water Shortage Conditions

The objective for water use reduction is a 5 percent reduction of the average daily water consumption during mild water shortage conditions. Stage 1 actions listed under water shortage conditions measures would be followed to inform wholesale water users.

Stage 1 measures are related to mild water shortage conditions and will initiate the following listed actions.

- a. Develop Information Center and designate information person.
- b. Advise public of condition and publicize availability of information from Center.
- c. Encourage voluntary reduction of water use.
- d. Contact commercial and industrial users and explain necessity for initiation of strict conservation methods.
- e. Implementation of system oversight and adjustments as required to meet changing conditions.

- f. Contact wholesale water customers to discuss water supply and/or demand conditions and will request that wholesale water customers initiate voluntary measures to reduce water use (for example, implement Stage I of the customer's drought contingency plan).
- g. Contact and coordinate with Panola County Fresh Water Supply District to monitor water levels in Lake Murvaul.

Stage 2 Response - Moderate Water Shortage Conditions

The objective for water use reduction is a 10 percent reduction of the average daily water consumption during moderate water shortage conditions. Stage 2 actions listed under moderate water shortage conditions would be followed to guide the wholesale water users to achieve the targeted water use reduction.

Stage 2 curtailments shall be initiated by the City Manager or his/her designee, identifying moderate water shortage conditions. Listed actions are compulsory on users and are intended to prohibit most non-essential water use.

- a. Irrigation of all public landscaped areas including parks and fields shall be discontinued.
- b. Outdoor residential use of water will be permitted on alternate days. Even number addresses on even days of the month and odd number addresses on odd number days. Outdoor residential uses consist of washing vehicles, motorcycles, boats, trailers, landscape sprinkler systems and irrigation, recreational use of sprinklers, outside showers (in parks) and waterslides.
- c. No ornamental fountain or ponds used for aesthetic or scenic purposes shall be operated unless equipped with recirculation system.
- d. The City Manager will monitor system function and establish hours for outside water use, depending upon System performance.
- e. Information Center and publicity elements shall keep public advised of curtailment status.
- f. Commercial and industrial users will be visited to develop and initiate specific criteria for water conservation as determined by the City Manager.
- g. Weekly contact will be made with wholesale water customers to discuss water supply and/or demand conditions and the possibility of pro rata curtailment of water diversion and/or deliveries. Wholesale customers will be required to initiate mandatory measures to reduce non-essential water use (for example, initiate Stage 2 of the customer's drought contingency plan). Also, the City will initiate preparations for the implementation of pro rata curtailment of water diversions and/or deliveries by preparing a monthly water usage allocation baseline for each wholesale customer.

- h. Fire hydrants shall not be used except for fire-fighting activities.
- i. Continued coordination with Panola County Fresh Water Supply District to evaluate water levels in Lake Murvaul.

Stage 3 Response - Severe Water Shortage Conditions

The objective for water use reduction is a 15 percent reduction of the average daily water consumption during severe water shortage conditions.

Stage 3 curtailment shall be initiated upon existence of severe conditions as determined by the City Manager.

- a. All requirements of Stage 2 shall remain in effect during Stage 3 except as modified below.
- b. No water shall be used for street washing, filling pools and jacuzzis, watering athletic fields and courses, and dust control. The use of hose-end sprinklers is prohibited.
- c. Water uses by commercial and industrial entities may be controlled to the extent determined by the City Manager.
- d. 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. Pro rata curtailment of water diversions and/or deliveries for each wholesale customer will be initiated. Discussions and suggestions will be made with each wholesale customer to alleviate problems.
- e. Initiate development and implementation of alternative engineering to reduce water usage or acquire and develop additional water sources.
- f. On-going coordination with Panola County Fresh Water Supply District to closely monitor water levels in Lake Murvaul.

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 for intended water use.

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

- | | | |
|-------------|---------------|-----------------|
| 1. Hospital | 3. Industrial | 5. Residential |
| 2. Schools | 4. Commercial | 6. Recreational |

Stage 4 Response - Critical Water Shortage Conditions

The objective for water use reduction is a 20 percent reduction of the average daily water consumption during critical water shortage conditions.

Stage 4 curtailment shall be initiated upon existence of critical conditions as determined by the City Manager.

- a. All requirements of Stage 2 and 3 shall remain in effect during Stage 4 except as modified below.
- b. Washing of motor vehicles, motorcycles, boats, trailers, airplanes, and other vehicles shall be prohibited.
- c. Continued development and implementation of alternative engineering to reduce water usage or acquire and develop additional water sources.
- d. On-going coordination with Panola County Fresh Water Supply District to closely monitor water levels in Lake Murvaul.

Stage 5 Response - Emergency Water Shortage Conditions

The objective for water use reduction is a 25 percent reduction of the average daily water consumption during emergency water shortage conditions.

Stage 5 curtailment shall be initiated upon existence of emergency conditions as determined by the City Manager.

- a. All requirements of Stages 2, 3, and 4 shall remain in effect during Stage 5 except as modified below.
- b. All non-essential water uses shall be prohibited. No water shall be used for landscaping or vehicles washing.
- c. Only those water usages which are required to protect the public health and safety will be allowed as determined by the City Manager.
- d. City Manager shall implement any or all alternative supply sources available and will implement the usage of reclaimed water for non-potable purposes where possible.
- e. Pro rata water allocation shall be implemented by the City Manager as described below.

Pro Rata Water Allocation

In the event that the triggering criteria specified in Section VIII of the plan for Stage 5 – Emergency Water Shortage Conditions have been met, the City Manager is hereby authorized to initiate allocation of water supplies on a pro rata basis in accordance with Texas Water Code Section §11.039. Each wholesale contract entered into or renewed after adoption of the Plan, including contract extensions, shall include provisions for pro rata water allocation during periods of water shortage and that the water will be distributed in accordance with the Texas Water Code, Section §11.039.

X. Enforcement

During any period when pro rata allocation of available water supplies is in effect, wholesale customers shall pay the following surcharges on excess water diversions and/or deliveries:

- 1.25 times the normal water charge for water diversions and/or deliveries in excess of the monthly allocation up through 5 percent above the monthly allocation.
- 1.5 times the normal water charge for water diversions and/or deliveries in excess of the monthly allocation from 5 percent through 10 percent above the monthly allocation.
- 1.75 times the normal water charge for water diversions and/or deliveries in excess of the monthly allocation from 10 percent through 15 percent above the monthly allocation.
- 2.0 times the normal water charge for water diversions and/or deliveries more than 15 percent above the monthly allocation.

The above surcharges shall be cumulative.

When a moderate, severe, critical, or emergency water shortage condition is in effect, no person shall knowingly or intentionally violate the water use restrictions described in the Plan. Any person who violates the Plan during these water shortage conditions is guilty of a misdemeanor and upon conviction shall be punished by a fine of not less than \$100.00 and not more than \$2,500.00. Each day that a violation is committed shall constitute a separate offense.

When any person or entity is convicted of three or more separate violations of this Plan, the City Manager may authorize the discontinuation of water service to the premises where such violations occurred. Services may be restored upon suitable assurance given to the City Manager that additional violations will not occur while the Plan is in effect and payment of a \$100.00 reconnection charge.

XI. Variances

The City Manager, or their designee, may, in writing, grant a temporary variance to the pro rata water allocation policies provided by this Plan if it is determined that failure to grant such variance would cause an emergency condition adversely affecting the public health, welfare, or safety and if one or more of the following conditions are met:

- Compliance with this Plan cannot be technically accomplished during the duration of the water supply shortage or other condition for which the Plan is in effect.
- Alternative methods can be implemented which will achieve the same level of reduction in water use.

Persons requesting an exemption from the provisions of this Plan shall file a petition for variance with the City Manager within 5 days after the pro rata allocation has been invoked. All petitions for variance shall be reviewed by the City of Carthage and shall include the following:

- Name and address of the petitioner(s).
- Detailed statement with supporting data and information as to how the pro rata allocation of water under the policies and procedures established in the Plan adversely affects the petitioner or what damage or harm will occur to the petitioner or others if petitioner complies with this Ordinance.
- Description of the relief requested.
- Period of time for which the variance is sought.
- Alternative measures the petitioner is taking or proposes to take to meet the intent of this Plan and the compliance date.
- Other pertinent information.

Variances granted by the City of Carthage shall be subject to the following conditions, unless waived or modified by the City of Carthage.

- Variances granted shall include a timetable for compliance.
- Variances granted shall expire when the Plan is no longer in effect, unless the petitioner has failed to meet specified requirements.

No variance shall be retroactive or otherwise justify any violation of this Plan occurring prior to the issuance of the variance.