

**COLORADO RIVER
MUNICIPAL
WATER DISTRICT**

**WATER
CONSERVATION
AND DROUGHT
CONTINGENCY
PLAN**

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May 2009

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Prepared for:

**COLORADO RIVER
MUNICIPAL WATER
DISTRICT**

CMD08494

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COLORADO RIVER MUNICIPAL WATER DISTRICT

Water Conservation and Drought Contingency Plan

May 2009

1. INTRODUCTION AND OBJECTIVES

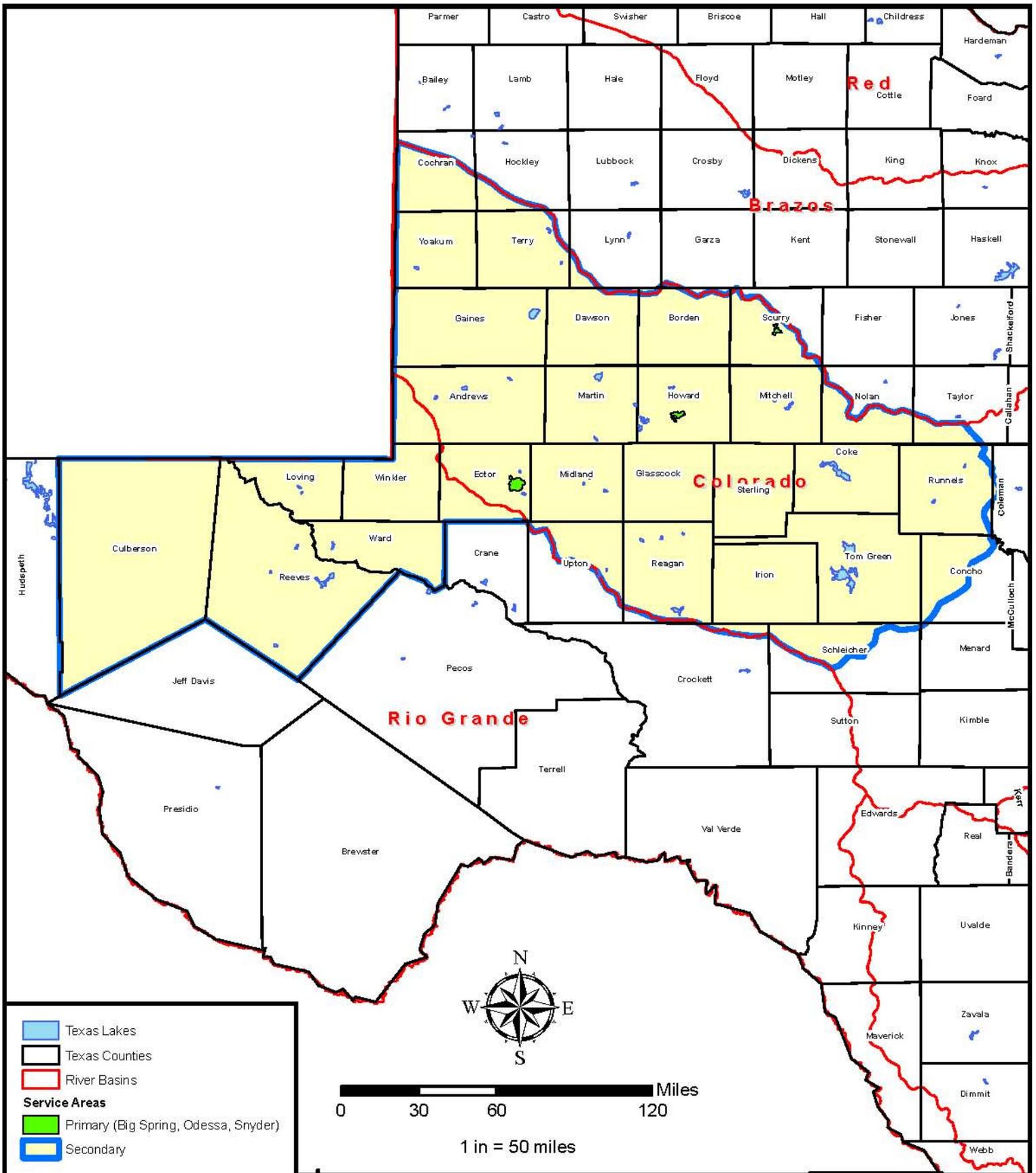
Water is a precious commodity in West Texas. The Colorado Municipal Water District (CRMWD) is located in the heart of West Texas. New sources of supply are hard to find and costly to develop. Water conservation and drought management are critical elements in assuring the area's water supply.

The Texas Commission on Environmental Quality (TCEQ) recognizes the need for efficient use of existing water supplies and has developed guidelines and requirements governing the development of water conservation and drought contingency plans for wholesale water suppliers. The TCEQ guidelines and requirements for wholesale suppliers are included in Appendix B. The CRMWD has developed this water conservation and drought contingency plan pursuant to TCEQ guidelines and requirements. This plan replaces the plan adopted by the Board of Directors on June 8, 2005.

The Colorado River Municipal Water District was authorized by the Texas Legislature in 1949. The purpose of CRMWD is to provide water supplies to its three member cities: Odessa, Big Spring, and Snyder. CRMWD also provides water to the following customers: Midland, San Angelo, Stanton, Robert Lee, Grandfalls, Millersview-Doole Water Supply Corporation, and Abilene (through the West Central Texas Municipal Water District). CRMWD provides wholesale raw water sales to these entities. CRMWD operates the water system owned by others that delivers water to the City of Pyote. Figure 1.1 shows the District's service area.

The objectives of this water conservation and drought contingency plan are as follows:

- To improve efficiency in the use of water.
- To reduce water consumption from the levels that would prevail without conservation efforts.
- To reduce the loss and waste of water.
- To extend the life of current water supplies.
- To preserve supplies for essential uses under drought or water emergency conditions.




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CMD08494

**Colorado River Municipal Water District
 Service Area**

FN JOB NO	CMD08494
FILE	H:7.mxd
DATE	April 06, 2009
SCALE	1:3,168,000
DESIGNED	RJF
DRAFTED	RJF

1.1

FIGURE

2. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES

The TCEQ rules governing development of water conservation plans for wholesale water suppliers are contained in Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.5 of the Texas Administrative Code, which is included in Appendix B. The TCEQ rules governing development of drought contingency plans for wholesale water suppliers are contained in Title 30, Part 1, Chapter 288, Subchapter B, Rule 288.22 of the Texas Administrative Code, which is included in Appendix B.

The elements in the TCEQ water conservation rules covered by this conservation and drought contingency plan and the sections of the report in which they can be found are listed in Appendix C.

3. WATER CONSERVATION PLAN

3.1 Description of the CRMWD Service Area and Water Systems

CRMWD provides raw water on a wholesale basis to three member cities and seven other customers in West Texas. The District owns and operates a distribution system that includes over 600 miles of water transmission pipeline across Borden, Coke, Concho, Crane, Ector, Glasscock, Howard, Martin, Mitchell, Midland, Scurry, Sterling, Taylor, Tom Green, Ward, and Winkler Counties.

Member cities include Odessa, Big Spring, and Snyder. Other wholesale customers include, the Cities of Midland, San Angelo, Stanton, Robert Lee, Grandfalls, Pyote and Abilene (through West Central Texas Municipal Water District) and Millersville-Doole WSC. Table 3.1 lists the CRMWD members and customers and the source(s) of water used by each entity. CRMWD also sells some wholesale raw water to industrial customers.

CRMWD owns and operates three reservoirs on the Colorado River: Lake J. B. Thomas, E. V. Spence Reservoir, and O. H. Ivie Reservoir. These reservoirs provide the majority of the municipal supplies to CRMWD customers. In addition, CRMWD operates a “diverted water” supply system consisting of five smaller reservoirs. The purpose of the diverted water system is to prevent the highly mineralized low flows of the Colorado River and Beals Creek from reaching Spence Reservoir. This system delivers the highly mineralized water to oil companies for use in field operations.

The District also owns and operates three groundwater well fields in Martin, Scurry, and Ward Counties. The well fields are typically used to supplement surface water supplies in the summer months or as a backup supply to be used in an emergency situation. The wells obtain water from the Ogallala, Dockum, and Pecos Valley aquifers.

Appendix D to this water conservation and drought contingency plan is the TCEQ water utility profile for CRMWD.

3.2 Wholesale Water Contractual Requirements

Current contract language limits the District’s ability to require and enforce specific water conservation measures on its member and customer cities. CRMWD is contractually obligated to provide all raw water needs of its member cities. Most customer cities have take or pay provisions linked to specific contract quantities. The District cannot demand reductions in these contract quantities, except in emergency situations. Most of CRMWD’s wholesale customers are required to prepare and submit their own water conservation plans to TCEQ. Thus, water conservation at the retail level is best achieved by programs implemented by the cities.

Every CRMWD contract entered into, renewed, or extended after the adoption of this plan will include a requirement that the wholesale customer and any of its customers will develop and implement a water conservation plan meeting the requirements of Title 30, Part 1,

Chapter 288, Subchapter A, Rule 288.2 of the Texas Administrative Code so long as this can be done within the constraints of CRMWD’s bond covenants.

**Table 3.1
Colorado River Municipal Water District Systems, Customers, and Associated
Sources of Supply**

System	Customer	Source(s) of Supply
1	City of Snyder	Lake Thomas Snyder Well Field
2	City of Odessa City of Big Spring City of Midland City of San Angelo City of Stanton Sheridan Production Company Power Resources	Lake Thomas Spence Reservoir Ivie Reservoir Ward County Well Field Odessa Well Field Martin County Well Field
3	City of Pyote WTSS	Ward County Well Field
4	City of Robert Lee	Spence Reservoir
5	City of San Angelo	Spence Reservoir
6	City of Abilene Millersview-Doole WSC	Ivie Reservoir
7	City of Grandfalls	Ward County Well Field

3.3 Reservoir System Operations and Conjunctive Use

CRMWD’s water supply system provides flexibility in meeting water needs. CRMWD’s system includes Lake J. B. Thomas, E. V. Spence Reservoir, O. H. Ivie Reservoir, Moss Creek Lake, Powell Lake, Ward County Well Field, Martin County Well Field, and Snyder Well Field. Lake Thomas, Spence Reservoir, and Ivie Reservoir provide the majority of the District’s water. Moss Creek Lake and Powell Lake are used for raw water supply and storage. The District’s other reservoirs are used for storage and evaporation of poor quality water to prevent it from reaching E. V. Spence Reservoir. The groundwater supplies provide backup supplies for the surface water.

CRMWD operates a conjunctive use program of surface water and groundwater supplies. The Ward and Martin County Well Fields are used in conjunction with surface water supplies in the summer months to meet water demands in Odessa. CRMWD uses the flexibility of its system to balance considerations of reliability of supply, preservation of supplies from resources impacted by drought, cost of pumping, and water quality.

3.4 Reuse Program

CRMWD is proceeding with the Big Spring Water Reclamation Project. This project began pilot testing a membrane plant in April 2009. Construction is scheduled for 2010 and the plant is planned to be in operation in 2011. The plant is tentatively being designed to handle 2.1 MGD of treated effluent, resulting in a product water yield of approximately 1.6 MGD. The Big Spring Water Reclamation Project will provide a new water supply that would otherwise have gone unused.

Potential reuse opportunities have been considered for the areas of Odessa, Midland, and Snyder. CRMWD has conducted a feasibility study in these areas.

3.5 Water Quality Enhancement Programs

CRMWD has developed a three-pronged approach to maintain the water quality in E. V. Spence Reservoir: diversion of poor quality, strategic water releases, and TMDL efforts.

CRMWD has constructed five reservoirs to aid in the reduction of chlorides and dissolved solids accumulating in Spence Reservoir. The water collected in these reservoirs is either sold to oil companies or sent to Barber, Red Draw, or Mitchell County reservoirs for evaporation. Since 1969, this program has successfully diverted almost 1.1 million tons of chlorides that would have otherwise accumulated in Spence Reservoir. This program has extended the useful life of Spence Reservoir providing municipal water supply.

Spence Reservoir has a tendency to be quite high in total dissolved solids (TDS) and chlorides. CRMWD makes strategic water releases from Spence Reservoir to improve the reservoir's water quality. These releases are coordinated to pass through Ivie Reservoir downstream so as not to significantly impact the water quality in Ivie Reservoir. These releases combined with significant inflow have resulted in improved water quality in Spence Reservoir.

CRMWD participates in Total Maximum Daily Load (TMDL) studies within its service area. TMDL studies are important to the District's water conservation program. Reducing or eliminating contaminants increases the amount of adequate quality water available for municipal and industrial uses. Since 2001, CRMWD has implemented a plan to reduce the TDS and sulfates in Spence Reservoir. This program is ongoing and involves reservoir release management, river diversion management, brush control, and other measures. In 2007, the TCEQ and the District completed an updated study of the Total Maximum Daily Load (TMDL) along the Colorado River between Spence Reservoir and Ivie Reservoir. The chloride and TDS levels for this area exceed the TCEQ standards.

3.6 Brush Management

The District actively participates in brush control projects along the Colorado River, particularly in the areas of its reservoirs. Saltcedar is an exotic, invasive species that is of particular interest in the area. Saltcedar consumes a significant amount of water and negatively impacts the quality of the water in the area.

From 2005 through 2007, CRMWD worked with the Texas State Soil and Water Conservation Board (TSSWCD) to remove the species by applying an herbicide to approximately 11,400 acres. The goal of this effort was to remove all of the saltcedar along the mainstem of the Colorado River from Lake Thomas Dam to Spence Reservoir, the riparian corridor of Beals Creek from the City of Big Spring to its confluence with the Colorado River, and the entire basins of Champion Creek Reservoir and Spence Reservoir.

This chemical control program is ongoing. The District continues to seek funds to apply the herbicide to saltcedar found along the Clordao River between the Spence Reservoir Dam and the O. H. Ivie Reservoir basin. In addition to the chemical control program, CRMWD is cooperating with the USDA Agriculture Research Service (ARS) and the Texas AgriLife Extension Service to implement a biocontrol program in the Upper Colorado River Basin. Biocontrol is the only long-term, cost-effective means to control and manage saltcedar. Efforts are underway to establish satellite saltcedar beetle populations throughout the Upper Colorado River Basin. The preliminary results look very promising.

3.7 Public Education

CRMWD provides public education regarding water conservation through a number of programs. The District provides the *Major Rivers Program* and the *Wonderful World of West Texas Water* booklet to fourth grade students. Demand for this program has diminished in recent years because of competing interests for teachers' and students' time.

3.8 Metering and Water Accounting System

CRMWD meters all water passing through the system at each point of diversion. Most of the meters transmit rate of flow information electronically on a real-time basis. All meters are tested and calibrated on a regular basis. The meters are maintained within ± 2 percent accuracy. A meter balance is also performed monthly to spot meter inaccuracies. All water deliveries, diversions, sales, and losses are determined from these readings. CRMWD aims to maintain its unaccounted water below 12 percent every year.

CRMWD's record management program includes methods to track water intake, water sales, and water losses. CRMWD maintains meters at all points of sale. The District analyzes and checks its water loss on a monthly basis to check for potential leaks or other delivery problems.

3.9 Leak Detection and Repair

CRMWD maintains an active leak detection and repair program. The pump stations are controlled remotely using a "real-time" SCADA system. The system is monitored by staff at all times. Any major leak in the distribution system is quickly spotted by staff who shut down pumps, adjust valves, and dispatch maintenance crews to minimize water loss. CRMWD also has staff that drive the pipeline routes every two months to look for leaks. All leaks found are promptly repaired.

3.10 Specification of Water Conservation Goals

The Colorado River Municipal Water District provides wholesale raw water supplies to its customers. The District's Primary Service Area is the city limits of its three member cities: Odessa, Big Spring, and Snyder. The District obtained the municipal per capita water use goals from their Member Cities and used this information to establish municipal per capita water use goals shown in Table 3.2. The target goals are based on the 5-year average for the member cities.

Table 3.2
CRMWD Five-Year and Ten-Year Target Municipal Per Capita Water Use Goals
(gpcd)

Entity	Current Average (gpcd)	5-Year Goal (gpcd)	10-Year Goal (gpcd)
CRMWD	205	203	200

Note: These goals are exclusive of industrial use.

3.11 Implementation and Enforcement

The CRMWD Board of Directors will consider this plan at their regularly scheduled meeting on Wednesday, May 13, 2009. The Board of Directors, or its designee, has the power and authority to implement and enforce this plan.

3.12 Coordination with Regional Water Planning Group

CRMWD is located within the boundaries of the Region F Regional Water Planning Group. A copy of this plan will be sent to Region F upon completion.

3.13 Water Conservation Implementation Report

Appendix E includes the Water Conservation Implementation Report. This is a relatively new requirement for the conservation plans and is the District's first such report to submit. CRMWD will submit an updated Water Conservation Implementation Report when this conservation and drought plan is updated.

3.14 Review and Update of Water Conservation Plan

TCEQ requires that the water conservation plans be updated prior to May 1, 2009, and every five years thereafter. This plan is being submitted in compliance with the May 1, 2009 deadline. The plan will be updated as required and as appropriate based on new or updated information.

CRMWD will submit a water conservation implementation report to the TWDB by May 1, 2010. The District will provide an updated report to the TWDB on an annual basis thereafter.

4. DROUGHT CONTINGENCY PLAN

4.1 Introduction

The purpose of this drought contingency 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 protect and preserve public health, welfare, and safety
- To minimize the adverse impacts of water supply shortages
- To minimize the adverse impacts of emergency water supply conditions.

CRMWD has a multi-faceted water supply system that uses multiple surface water and groundwater supplies. This system reduces the impact of drought on CRMWD's member cities and customers. This plan focuses on the District's fresh water system only.

4.2 Continuing Notice to Member and Customer Cities

CRMWD updates the current reservoir elevation data on its web site (www.crmwd.org). This information is updated on a daily basis. Drought stage information is also posted on the web site.

4.3 Provisions to Inform the Public and Opportunity for Public Input

CRMWD provided opportunity for public input in the development of this drought contingency plan by the following means:

- Posting the draft plan on the District's web site at www.crmwd.org and having a copy of the draft plan at the District's office for the public to view.
- Providing the draft plan to member cities and customers for review and comment.
- Providing the draft plan to anyone requesting a copy.
- Holding a public meeting regarding the drought contingency plan at the CRMWD offices in Big Spring, at 10:00 A.M., on Tuesday, April 21, 2009.

4.4 Initiation and Termination of Drought Stages or Water System Emergency

Initiation of a Drought Stage or Water System Emergency

The Board of Directors, or its designee, may order the implementation of a drought stage or water system emergency when one or more of the trigger conditions for that stage is met. The following actions will be taken when a drought stage or water system emergency is initiated:

- The public will be notified through local media.
- CRMWD will directly notify its affected member cities and customers in the event that a drought stage has been implemented. The notification will provide details of the reasons for initiation of the drought contingency stage or water system emergency.
- If any mandatory provisions of the drought contingency plan are activated, CRMWD will notify the Executive Director of the TCEQ within 5 business days.

The Board of Directors may decide not to order the implementation of a drought contingency stage or water system emergency even though one or more of the trigger criteria for the stage are met. Factors which could influence such a decision include, but are not limited to, the time of the year, weather conditions, water quality concerns, the anticipation of replenished water supplies, or the anticipation that additional facilities will become available to meet needs.

Termination of a Drought Contingency Stage or Water System Emergency

The Board of Directors, or its designee, may order the termination of a drought contingency stage or water system emergency when the conditions for termination are met or at its discretion. The following actions will be taken when a drought contingency stage or water system emergency is terminated:

- The public will be notified through local media.
- CRMWD will directly notify its affected member cities and customers in the event that a drought stage has been terminated. The notification will provide details of the reasons for termination of the drought contingency stage or water system emergency.
- When any activated mandatory provisions of the drought contingency plan are terminated, CRMWD will notify the Executive Director of the TCEQ within 5 business days.

The Board of Directors may decide not to order the termination of a drought contingency stage or water system emergency even though the conditions for termination are met. Factors which could influence such a decision include, but are not limited to, the time of the year, weather conditions, or the anticipation of potential changed conditions that warrant the continuation of the drought contingency stage or water system emergency.

4.5 Drought Contingency Stages and Water System Emergency Measures

Table 4.1 lists the trigger conditions for each of the three water supply reservoirs. The response stages and measures that may be taken during each stage are described below by reservoir.

Table 4.1
Drought Triggers for CRMWD Municipal Reservoirs

Reservoir Elevation	Mild	Moderate	Severe
J. B. Thomas	2,216.32	2,213.90	2,211.10
E. V. Spence	1,846.67	1,842.18	1,836.52
O. H. Ivie	1,517.73	1,512.07	1,504.46

In addition to the triggers listed in Table 4.1, the following triggers also apply to each of the three reservoirs:

- The Board of Directors, or its designee, finds that the conditions warrant the declaration of a specific stage.
- Water demand for all of part of the delivery system approaches delivery capacity.
- Supply source becomes contaminated.
- Water supply system is unable to deliver water due to failure or damage of major water system components.

Each stage may terminate when the circumstances that caused the initiation of a particular stage no longer prevail.

Stage 1 – Mild Drought

The goal for water use reduction in Stage 1 is two percent of the use that would have otherwise occurred in the absence of these measures. The Board of Directors, or its designee, can order the implementation of any of the following actions, as deemed necessary:

Lake J. B. Thomas

- Initiate engineering studies to evaluate alternative actions if conditions worsen.
- Implement viable alternative water supplies.
- Request the City of Snyder and any other customers that CRMWD finds to be dependent on this source to implement Stage 1 of their drought contingency plan.
- Discontinue pumping operations at the Big Spring/Odessa intake.

E. V. Spence Reservoir

- Initiate engineering studies to evaluate alternative actions if conditions worsen.
- Implement viable alternative water supplies.
- Request the Cities of Robert Lee and San Angelo and any other customers that CRMWD finds to be dependent on this source to implement Stage 1 of their drought contingency plan.
- Refrain from any large releases from Spence Reservoir for water quality purposes.

O. H. Ivie Reservoir

- Initiate engineering studies to evaluate alternative actions if conditions worsen.
- Implement viable alternative water supplies.
- Request any customer that CRMWD finds to be dependent on this source to implement Stage 1 of their drought contingency plan.

Stage 2 – Moderate Drought

The goal for water use reduction in Stage 2 is five percent of the use that would have otherwise occurred in the absence of these measures. CRMWD will notify TCEQ within 5 business days of any mandatory measures that are implemented. The Board of Directors, or its designee, can order the implementation of any of the following actions, as deemed necessary:

Lake J. B. Thomas

- Continue or initiate any actions available under Stage 1.
- Initiate engineering studies to evaluate alternative actions if conditions worsen.
- Implement viable alternative water supplies.
- Request the City of Snyder and any other customers that CRMWD finds to be dependent on this source to implement Stage 2 of their drought contingency plan.
- Begin operation of the Snyder Well Field.

E. V. Spence Reservoir

- Continue or initiate any actions available under Stage 1.
- Initiate engineering studies to evaluate alternative actions if conditions worsen.
- Implement viable alternative water supplies.
- Request the Cities of Robert Lee and San Angelo and any other customers that CRMWD finds to be dependent on this source to implement Stage 2 of their drought contingency plan.

O. H. Ivie Reservoir

- Continue or initiate any actions available under Stage 1.
- Initiate engineering studies to evaluate alternative actions if conditions worsen.
- Implement viable alternative water supplies.
- Request all customers that CRMWD finds to be dependent on this source to implement Stage 2 of their drought contingency plans.
- Refrain from making any large-scale releases from Ivie Reservoir for water quality purposes.

Stage 3 – Severe Drought

The goal for water use reduction in Stage 3 is ten percent, or greater if determined by the Board of Directors, of the use that would have otherwise occurred in the absence of these measures. CRMWD will notify TCEQ within 5 business days of any mandatory measures that are implemented. The Board of Directors, or its designee, can order the implementation of any of the following actions, as deemed necessary:

Lake J. B. Thomas

- Continue or initiate any actions available under Stages 1 or 2.
- Initiate engineering studies to evaluate alternative actions if conditions worsen.
- Implement viable alternative water supplies.
- Request the City of Snyder and any other customers that CRMWD finds to be dependent on this source to implement Stage 3 of their drought contingency plan.
- Begin “pump back” operation with water from Ivie or Spence Reservoirs, if available.

E. V. Spence Reservoir

- Continue or initiate any actions available under Stages 1 or 2.
- Initiate engineering studies to evaluate alternative actions if conditions worsen.
- Implement viable alternative water supplies.
- Request the Cities of Robert Lee and San Angelo and any other customers that CRMWD finds to be dependent on this source to implement Stage 3 of their drought contingency plan.
- Refrain from transferring water from Spence Reservoir to any other source.

O. H. Ivie Reservoir

- Continue or initiate any actions available under Stages 1 or 2.
- Initiate engineering studies to evaluate alternative actions if conditions worsen.
- Implement viable alternative water supplies.
- Request all customers that CRMWD finds to be dependent on this source to implement Stage 3 of their drought contingency plan.

Water System Emergency

A pipeline break, equipment failure, or source contamination can cause a critical water problem in a short period of time. In most cases, CRMWD is prepared to handle such situations without significant disruption of water deliveries. Because of the system’s flexibility, raw water supplies can be typically be rerouted to the customer through alternative delivery schemes.

In the event of a system emergency, the District’s staff will assess the situation. The system that failed will be evaluated to determine what corrective measures are needed, the estimated

time for repairs, water demands of the customers relying on the system, alternative sources of supply, current storage capacity, and the customer's storage capacity. Each customer who might be affected will be notified by telephone. If the situation persists, the customers of the affected system may be asked to implement the Emergency Condition portion of their Drought Contingency Plan(s).

4.6 Procedure for Curtailment of Water Supplies

During times when the District must limit water deliveries to its customers, water will be distributed according to Texas Water Code §11.039, unless this section conflicts with the District's existing contracts of water supply. In case of a conflict, the District's water contracts shall govern.

The District recognizes that the Texas Administrative Code, Title 30, Part 1, Chapter 288, Subchapter B, Rule §288.33 (8) states that a drought contingency plan must include a provision in every wholesale water contract entered into or renewed after adoption of this plan, including contract extensions, that in case of a shortage of water resulting from drought, the water to be distributed shall be divided in accordance with Texas Water Code §11.039 and in accordance with the provisions in the District's water supply contracts.

4.7 Procedure for Granting Variances to the Plan

The Board of Directors, or its designee, may grant temporary variances for existing water uses otherwise prohibited under this drought contingency plan to a member city or customer if one or more of the following conditions are met:

- Failure to grant such a variance would cause an emergency condition adversely affecting health, sanitation, or fire safety for the public or the entity requesting the variance.
- Compliance with this plan cannot be accomplished due to technical or other limitations.
- Alternative methods that achieve the same level of reduction in water use can be implemented.

Variances shall be granted or denied at the discretion of the Board of Directors, or its designee. All petitions for variances should be submitted to CRMWD in writing.

4.8 Procedures for Enforcing Mandatory Water Use Restrictions

The Board of Directors, or its designee, declares a drought or an emergency situation. The Board of Directors, or its designee, is authorized to implement and enforce this plan with regards to the system. The Board of Directors, or its designee, is authorized to ration water in an emergency situation.

4.9 Coordination with the Regional Water Planning Group

CRMWD is located within the boundaries of the Region F Regional Water Planning Group. A copy of this plan will be sent to Region F upon completion.

4.10 Review and Update of Drought Contingency Plan

As required by TCEQ rules, CRMWD will review this plan every five years. The plan will be updated as appropriate based on new or updated information.

APPENDIX A
LIST OF REFERENCES

APPENDIX A
List of References

Colorado River Municipal Water District: Water Conservation and Drought Contingency Plan, Adopted June 8, 2005.

Texas Commission on Environmental Quality Water Utility Profile, downloaded from <http://www.tceq.state.tx.us/assets/public/permitting/forms/20162.pdf> November 2008.

Title 30 of the Texas Administrative Code, Part 1, Chapter 288, Subchapter A, Subchapter B, and Subchapter C, downloaded from [http://info.sos.state.tx.us/pls/pub/readtac\\$ext.ViewTAC?tac_view=4&ti=30&pt=1&ch=288](http://info.sos.state.tx.us/pls/pub/readtac$ext.ViewTAC?tac_view=4&ti=30&pt=1&ch=288) on December 2008.

APPENDIX B

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES ON
MUNICIPAL WATER CONSERVATION AND DROUGHT CONTINGENCY
PLANS FOR WHOLESALE WATER SUPPLIERS**

APPENDIX B

Texas Commission on Environmental Quality Rules on Municipal Water Conservation and Drought Contingency Plans for Wholesale Water Suppliers

Texas Administrative Code

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

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

- (1) Agricultural or Agriculture--Any of the following activities:
 - (A) cultivating the soil to produce crops for human food, animal feed, or planting seed or for the production of fibers;
 - (B) the practice of floriculture, viticulture, silviculture, and horticulture, including the cultivation of plants in containers or non-soil media by a nursery grower;
 - (C) raising, feeding, or keeping animals for breeding purposes or for the production of food or fiber, leather, pelts, or other tangible products having a commercial value;
 - (D) raising or keeping equine animals;
 - (E) wildlife management; and
 - (F) planting cover crops, including cover crops cultivated for transplantation, or leaving land idle for the purpose of participating in any governmental program or normal crop or livestock rotation procedure.
- (2) Agricultural use--Any use or activity involving agriculture, including irrigation.
- (3) Best management practices--Voluntary efficiency measures that save a quantifiable amount of water, either directly or indirectly, and that can be implemented within a specific time frame.
- (4) Conservation--Those practices, techniques, and technologies that reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water, or increase the recycling and reuse of water so that a water supply is made available for future or alternative uses.
- (5) Drought contingency plan--A strategy or combination of strategies for temporary supply and demand management responses to temporary and potentially recurring water supply shortages and other water supply emergencies. A drought contingency plan may be a separate document identified as such or may be contained within another water management document(s).
- (6) Industrial use--The use of water in processes designed to convert materials of a lower order of value into forms having greater usability and commercial value,

commercial fish production, and the development of power by means other than hydroelectric, but does not include agricultural use.

(7) Irrigation--The agricultural use of water for the irrigation of crops, trees, and pastureland, including, but not limited to, golf courses and parks which do not receive water through a municipal distribution system.

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

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

(10) Municipal per capita water use--The sum total of water diverted into a water supply system for residential, commercial, and public and institutional uses divided by actual population served.

(11) Municipal use--The use of potable water within or outside a municipality and its environs whether supplied by a person, privately owned utility, political subdivision, or other entity as well as the use of sewage effluent for certain purposes, including the use of treated water for domestic purposes, fighting fires, sprinkling streets, flushing sewers and drains, watering parks and parkways, and recreational purposes, including public and private swimming pools, the use of potable water in industrial and commercial enterprises supplied by a municipal distribution system without special construction to meet its demands, and for the watering of lawns and family gardens.

(12) Municipal use in gallons per capita per day--The total average daily amount of water diverted or pumped for treatment for potable use by a public water supply system. The calculation is made by dividing the water diverted or pumped for treatment for potable use by population served. Indirect reuse volumes shall be credited against total diversion volumes for the purpose of calculating gallons per capita per day for targets and goals.

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

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

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

(16) Regional water planning group--A group established by the Texas Water

Development Board to prepare a regional water plan under Texas Water Code, §16.053.

(17) Retail public water supplier--An individual or entity that for compensation supplies water to the public for human consumption. The term does not include an individual or entity that supplies water to itself or its employees or tenants when that water is not resold to or used by others.

(18) Reuse--The authorized use for one or more beneficial purposes of use of water that remains unconsumed after the water is used for the original purpose of use and before that water is either disposed of or discharged or otherwise allowed to flow into a watercourse, lake, or other body of state-owned water.

(19) Water conservation plan--A strategy or combination of strategies for reducing the volume of water withdrawn from a water supply source, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, for increasing the recycling and reuse of water, and for preventing the pollution of water. A water conservation plan may be a separate document identified as such or may be contained within another water management document(s).

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

Source Note: The provisions of this §288.1 adopted to be effective May 3, 1993, 18 TexReg 2558; amended to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective August 15, 2002, 27 TexReg 7146; amended to be effective October 7, 2004, 29 TexReg 9384; amended to be effective January 10, 2008, 33 TexReg 193

Texas Administrative Code

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

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

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

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

(B) until May 1, 2005, specification of conservation goals including, where appropriate, target per capita water use goals for the wholesaler's service area, maximum acceptable unaccounted-for water, the basis for the development of these goals, and a time frame for achieving these goals;

(C) beginning May 1, 2005, specific, quantified five-year and ten-year targets for water savings including, where appropriate, target goals for municipal use in gallons per capita per day for the wholesaler's service area, maximum acceptable unaccounted-for water, and the basis for the development of these goals. The goals established by wholesale water suppliers under this subparagraph are not enforceable;

(D) 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;

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

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

(G) a requirement in every water supply contract entered into or renewed after official adoption of the water conservation plan, and including any contract extension, that each successive wholesale customer develop and implement a water conservation plan or water conservation measures using the applicable elements of this chapter. If the customer intends to resell the water, then the contract between the initial supplier and customer must provide that the contract for the resale of the water must have water conservation requirements so that each successive customer in the resale of the water will be required to implement water conservation measures in accordance with applicable provisions of this chapter;

(H) a reservoir systems operations plan, if applicable, providing for the coordinated

operation of reservoirs owned by the applicant within a common watershed or river basin. The reservoir systems operations plans shall include optimization of water supplies as one of the significant goals of the plan;

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

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

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

(A) conservation-oriented water rates and water rate structures such as uniform or increasing block rate schedules, and/or seasonal rates, but not flat rate or decreasing block rates;

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

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

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

(3) Review and update requirements. Beginning May 1, 2005, the wholesale water supplier shall review and update its water conservation plan, as appropriate, based on an assessment of previous five-year and ten-year targets and any other new or updated information. A wholesale water supplier shall review and update the next revision of its water conservation plan not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group.

Source Note: The provisions of this §288.5 adopted to be effective May 3, 1993, 18 TexReg 2558; amended to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective October 7, 2004, 29 TexReg 9384

Texas Administrative Code

<u>TITLE 30</u>	ENVIRONMENTAL QUALITY
<u>PART 1</u>	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
<u>CHAPTER 288</u>	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
<u>SUBCHAPTER B</u>	DROUGHT CONTINGENCY PLANS
RULE §288.22	Drought Contingency Plans for Wholesale Water Suppliers

(a) A drought contingency plan for a wholesale water supplier must include the following minimum elements.

(1) Preparation of the plan shall include provisions to actively inform the public and to affirmatively provide opportunity for user input in the preparation of the plan and for informing wholesale customers about the plan. Such acts may include, but are not limited to, having a public meeting at a time and location convenient to the public and providing written notice to the public concerning the proposed plan and meeting.

(2) The drought contingency plan must document coordination with the regional water planning groups for the service area of the wholesale public water supplier to ensure consistency with the appropriate approved regional water plans.

(3) The drought contingency plan must include a description of the information to be monitored by the water supplier and specific criteria for the initiation and termination of drought response stages, accompanied by an explanation of the rationale or basis for such triggering criteria.

(4) The drought contingency plan must include a minimum of three drought or emergency response stages providing for the implementation of measures in response to water supply conditions during a repeat of the drought-of-record.

(5) The drought contingency plan must include the procedures to be followed for the initiation or termination of drought response stages, including procedures for notification of wholesale customers regarding the initiation or termination of drought response stages.

(6) The drought contingency plan must include specific, quantified targets for water use reductions to be achieved during periods of water shortage and drought. The entity preparing the plan shall establish the targets. The goals established by the entity under this paragraph are not enforceable.

(7) The drought contingency plan must include the specific water supply or water demand management measures to be implemented during each stage of the plan including, but not limited to, the following:

(A) pro rata curtailment of water deliveries to or diversions by wholesale water customers as provided in Texas Water Code, §11.039; and

(B) utilization of alternative water sources with the prior approval of the executive director as appropriate (e.g., interconnection with another water system, temporary use of a non-municipal water supply, use of reclaimed water for non-potable purposes, etc.).

(8) The drought contingency plan must include a provision in every wholesale water

contract entered into or renewed after adoption of the plan, including contract extensions, that in case of a shortage of water resulting from drought, the water to be distributed shall be divided in accordance with Texas Water Code, §11.039.

(9) The drought contingency plan must include procedures for granting variances to the plan.

(10) The drought contingency plan must include procedures for the enforcement of any mandatory water use restrictions including specification of penalties (e.g., liquidated damages, water rate surcharges, discontinuation of service) for violations of such restrictions.

(b) The wholesale public water supplier shall notify the executive director within five business days of the implementation of any mandatory provisions of the drought contingency plan.

(c) The wholesale public water supplier shall review and update, as appropriate, the drought contingency plan, at least every five years, based on new or updated information, such as adoption or revision of the regional water plan.

Source Note: The provisions of this §288.22 adopted to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective October 7, 2004, 29 TexReg 9384

Texas Administrative Code

<u>TITLE 30</u>	ENVIRONMENTAL QUALITY
<u>PART 1</u>	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
<u>CHAPTER 288</u>	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
<u>SUBCHAPTER C</u>	REQUIRED SUBMITTALS
RULE §288.30	Required Submittals

In addition to the water conservation and drought contingency plans required to be submitted with an application under §295.9 of this title (relating to Water Conservation and Drought Contingency Plans), water conservation and drought contingency plans are required as follows.

(1) Water conservation plans for municipal, industrial, and other non-irrigation uses. The holder of an existing permit, certified filing, or certificate of adjudication for the appropriation of surface water in the amount of 1,000 acre-feet a year or more for municipal, industrial, and other non-irrigation uses shall develop, submit, and implement a water conservation plan meeting the requirements of Subchapter A of this chapter (relating to Water Conservation Plans). The water conservation plan must be submitted to the executive director not later than May 1, 2005. Thereafter, the next revision of the water conservation plan for municipal, industrial, and other non-irrigation uses must be submitted not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. Any revised plans must be submitted to the executive director within 90 days of adoption. The revised plans must include implementation reports. The requirement for a water conservation plan under this section must not result in the need for an amendment to an existing permit, certified filing, or certificate of adjudication.

(2) Implementation report for municipal, industrial, and other non-irrigation uses. The implementation report must include:

- (A) the list of dates and descriptions of the conservation measures implemented;
- (B) data about whether or not targets in the plans are being met;
- (C) the actual amount of water saved; and
- (D) if the targets are not being met, an explanation as to why any of the targets are not being met, including any progress on that particular target.

(3) Water conservation plans for irrigation uses. The holder of an existing permit, certified filing, or certificate of adjudication for the appropriation of surface water in the amount of 10,000 acre-feet a year or more for irrigation uses shall develop, submit, and implement a water conservation plan meeting the requirements of Subchapter A of this chapter. The water conservation plan must be submitted to the executive director not later than May 1, 2005. Thereafter, the next revision of the water conservation plan for irrigation uses must be submitted not later than May 1, 2009, and every five years after

that date to coincide with the regional water planning group. Any revised plans must be submitted to the executive director within 90 days of adoption. The revised plans must include implementation reports. The requirement for a water conservation plan under this section must not result in the need for an amendment to an existing permit, certified filing, or certificate of adjudication.

(4) Implementation report for irrigation uses. The implementation report must include:

(A) the list of dates and descriptions of the conservation measures implemented;

(B) data about whether or not targets in the plans are being met;

(C) the actual amount of water saved; and

(D) if the targets are not being met, an explanation as to why any of the targets are not being met, including any progress on that particular target.

(5) Drought contingency plans for retail public water suppliers. Retail public water suppliers shall submit a drought contingency plan meeting the requirements of Subchapter B of this chapter (relating to Drought Contingency Plans) to the executive director after adoption by its governing body. The retail public water system shall provide a copy of the plan to the regional water planning group for each region within which the water system operates. These drought contingency plans must be submitted as follows.

(A) For retail public water suppliers providing water service to 3,300 or more connections, the drought contingency plan must be submitted to the executive director not later than May 1, 2005. Thereafter, the retail public water suppliers providing water service to 3,300 or more connections shall submit the next revision of the plan not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. Any revised plans must be submitted to the executive director within 90 days of adoption by the community water system. Any new retail public water suppliers providing water service to 3,300 or more connections shall prepare and adopt a drought contingency plan within 180 days of commencement of operation, and submit the plan to the executive director within 90 days of adoption.

(B) For all the retail public water suppliers, the drought contingency plan must be prepared and adopted not later than May 1, 2005 and must be available for inspection by the executive director upon request. Thereafter, the retail public water suppliers shall prepare and adopt the next revision of the plan not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. Any new retail public water supplier providing water service to less than 3,300 connections shall prepare and adopt a drought contingency plan within 180 days of commencement of operation, and shall make the plan available for inspection by the executive director upon request.

(6) Drought contingency plans for wholesale public water suppliers. Wholesale public water suppliers shall submit a drought contingency plan meeting the requirements of Subchapter B of this chapter to the executive director not later than May 1, 2005, after adoption of the drought contingency plan by the governing body of the water supplier. Thereafter, the wholesale public water suppliers shall submit the next revision of the plan not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. Any new or revised plans must be submitted to the executive director within 90 days of adoption by the governing body of the wholesale public water supplier. Wholesale public water suppliers shall also provide a copy of the drought contingency plan to the regional water planning group for each region within which the wholesale water supplier operates.

(7) Drought contingency plans for irrigation districts. Irrigation districts shall submit a drought contingency plan meeting the requirements of Subchapter B of this chapter to the executive director not later than May 1, 2005, after adoption by the governing body of the irrigation district. Thereafter, the irrigation districts shall submit the next revision of the plan not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. Any new or revised plans must be submitted to the executive director within 90 days of adoption by the governing body of the irrigation district. Irrigation districts shall also provide a copy of the plan to the regional water planning group for each region within which the irrigation district operates.

(8) Additional submissions with a water right application for state water. A water conservation plan or drought contingency plan required to be submitted with an application in accordance with §295.9 of this title must also be subject to review and approval by the commission.

(9) Existing permits. The holder of an existing permit, certified filing, or certificate of adjudication shall not be subject to enforcement actions nor shall the permit, certified filing, or certificate of adjudication be subject to cancellation, either in part or in whole, based on the nonattainment of goals contained within a water conservation plan submitted with an application in accordance with §295.9 of this title or by the holder of an existing permit, certified filing, or certificate of adjudication in accordance with the requirements of this section.

(10) Submissions to the executive administrator of the Texas Water Development Board.

(A) Water conservation plans for retail public water suppliers. For retail public water suppliers providing water service to 3,300 or more connections, a water conservation plan meeting the minimum requirements of Subchapter A of this chapter and using appropriate best management practices must be developed, implemented, and submitted to the executive administrator of the Texas Water Development Board not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. Any revised plans must be submitted to the executive administrator within 90 days of adoption by the community water system. Any new retail public water suppliers providing water service to 3,300 or more connections shall prepare and adopt a water conservation plan within 180 days of commencement of operation, and submit the plan to the executive administrator of the Texas Water Development Board within 90 days of adoption.

(B) Water conservation plans. Each entity that is required to submit a water conservation plan to the commission shall submit a copy of the plan to the executive administrator of the Texas Water Development Board not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group.

(C) Annual reports. Each entity that is required to submit a water conservation plan to the Texas Water Development Board or the commission, shall file a report not later than May 1, 2010, and annually thereafter to the executive administrator of the Texas Water Development Board on the entity's progress in implementing the plan.

(D) Violations of the Texas Water Development Board's rules. The water conservation plans and annual reports shall comply with the minimum requirements established in the Texas Water Development Board's rules. The Texas Water Development Board shall notify the commission if the Texas Water Development Board determines that an entity

has not complied with the Texas Water Development Board rules relating to the minimum requirements for water conservation plans or submission of plans or annual reports. The commission shall take appropriate enforcement action upon receipt of notice from the Texas Water Development Board.

Source Note: The provisions of this §288.30 adopted to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective October 7, 2004, 29 TexReg 9384; amended to be effective January 10, 2008, 33 TexReg 193

APPENDIX C

**LOCATION IN PLAN OF ELEMENTS SPECIFIED BY THE TEXAS
ADMINISTRATIVE CODE**

APPENDIX C

Location in Plan of Elements Specified by the Texas Administrative Code

The TCEQ rules governing development of water conservation plans for wholesale water suppliers are contained in Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.5 of the Texas Administrative Code. TCEQ requirements for drought contingency and water emergency response plans are included in Title 30, Part 1, Chapter 288, Subchapter B, Rule 288.22 of the Texas Administrative Code. Rule 288.30 lists the required submittals. The elements in the TCEQ rules covered in this conservation and drought contingency plan are listed below.

Minimum Conservation Plan Requirements for Wholesale Water Suppliers

CRMWD is a wholesale water supplier to member cities and customers. The minimum requirements in the Texas Administrative Code for water conservation plans for wholesale water suppliers are covered in this report as follows:

- 288.5(1)(A) – Description of Service Area – Section 3.1
- 288.5(1)(B) – Specification of Goals – Section 3.10
- 288.5(1)(C) – Specific, Quantified Goals – Section 3.10
- 288.5(1)(D) – Measure and Account Water Diverted – Section 3.8
- 288.5(1)(E) – Monitoring and Record Management System – Section 3.8
- 288.5(1)(F) – Program of Metering and Leak Detection and Repair – Section 3.9
- 288.5(1)(G) – Requirement for Water Conservation Plans by Wholesale Customers – Section 3.2
- 288.5(1)(H) – Reservoir System Operation Plan – Section 3.3
- 288.5(1)(I) – Means of Implementation and Enforcement – Sections 3.2 and 3.11
- 288.5(1)(J) – Documentation of Coordination with Regional Water Planning Group – Section 3.12
- 288.5(3) – Review and Update of Plan – Section 3.14

Additional Conservation Strategies

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

- 288.5(2)(C) – Program for Reuse and/or Recycling – Section 3.4
- 288.5(2)(D) – Other Measures
 - Section 3.5 – Water Quality Enhancement Programs – Section 3.5
 - Section 3.6 – Brush Management – Section 3.6
 - Section 3.7 – Public Education – Section 3.7

Minimum Drought Contingency Plan Requirements

TCEQ's minimum requirements for drought contingency plans are addressed in the following subsections of this report:

- 288.22(a)(1) – Provisions to Inform the Public and Provide Opportunity for Public Input – Sections 4.2 and 4.3
- 288.22(a)(2) – Coordination with the Regional Water Planning Group – Section 4.9
- 288.22(a)(3) – Criteria for Initiation and Termination of Drought Stages – Section 4.4
- 288.22(a)(4) – Drought and Emergency Response Stages – Section 4.5
- 288.22(a)(5) – Procedures for Initiation and Termination of Drought Stages – Section 4.4
- 288.22(a)(6) – Specific, Quantifiable Targets for Water Use Reduction – Section 4.5
- 288.22(a)(7) – Specific Measures to be Implemented during Each Drought Stage – Section 4.5
- 288.22(a)(8) – Provision for Wholesale Contracts to Require Water Distribution According to Texas Water Code §11.039 – Section 4.6
- 288.22(a)(9) – Provision for Granting Variances to the Plan - Section 4.7
- 288.22(a)(10) – Procedures for Enforcement of Mandatory Restrictions – Section 4.8
- 288.22(b) – Notification of Implementation of Mandatory Measures – Section 4.4
- 288.22(c) – Review and Update of Plan – Section 4.10

Required Submittals

- 288.30(1) – Water Conservation Plan for Municipal, Industrial, and Other Non-Irrigation Uses – Section 3
- 288.30(2) – Water Conservation Implementation Report – Appendix E
- 288.30(3) – Water Conservation Plan for Irrigation Uses – Not Applicable
- 288.30(4) – Implementation Report for Irrigation Users – Not Applicable
- 288.30(5) – Drought Contingency Plans for Retail Water Providers– Not Applicable
- 288.30(6) – Drought Contingency Plans for Wholesale Water Providers – Section 4
- 288.30(7) – Drought Contingency Plans for Irrigation Districts – Not Applicable
- 288.30(8) – Water Right Application – Not Applicable
- 288.30(9) – Existing Permit Holder Not Subject to Enforcement Actions for Non-Attainment of Water Conservation Goals – Noted
- 288.30(10) – Submissions to the Texas Water Development Board – Sections 3.14 and 4.10

APPENDIX D
TCEQ WATER UTILITY PROFILE

APPENDIX D

Colorado River Municipal Water District Water Utility Profile Based on TCEQ Format

Name of Utility: Colorado River Municipal Water District
 Address & Zip: P.O. Box 869, Big Spring, TX 79720
 Telephone Number: (432) 267-6341
 Fax Number: (432) 267-3121
 Form Completed by: Chris Wingert
 Title: Planning & Development Manager
 Signature: *C. L. Wingert*
 Date: 8/25/09

Name and phone number of person responsible for implementing a water conservation program:

Name: John W. Grant, General Manager
 Phone Number: (432) 267-6341

I. CUSTOMER DATA

A. Population and Service Area Data

Service area map is included as Figure 1.1.

1. Service area size (square miles): 30,373 (Estimated 2008 total population of member cities and customers)
2. Current population of service area: 446,261
3. Current (2008) population served by utility:
 - water: 446,261
 - wastewater: 0
4. Population served by utility for the previous five years:

Year	Estimated Population
2004	435,347
2005	436,331
2006	441,227
2007	444,742
2008	446,261

Population shown represents entire population of customer cities. Some of these cities receive water from sources other than CRMWD. Population is based on State Demographer estimates for July of specified year, except 2008 is based on January 2008. Millersview-Doole WSC is not included. Some of these customers provide water to populations outside their city limits, which is not represented in this table.

Population includes Odessa, Big Spring, Snyder, Midland, San Angelo, Stanton, Abilene, Robert Lee, Grandfalls, and Pyote.

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

Year	Estimated Population
2010	486,799
2020	515,656
2030	540,086
2040	562,315
2050	585,413
2060	611,362

Projected total population for current member cities and customers from Region F projections for the 2006 regional water plan (as approved by TWDB). Projections include Millersview-Doole WSC. Some of these customers provide water to populations outside their city limits, which is not represented in this table. New customers would add to these projections.

6. List source(s)/method(s) for the calculation of current and projected population:

As described above, the estimates are total populations of current member and customer cities. The population estimates are based on the State Demographer estimates. The projections are from the *2006 Region F Water Plan*, as approved by the TWDB.

B. Customers Data

List the names of all wholesale customers, amount of annual contract, and amount of the annual use for each for the previous year:

Customer	Avg Day Contracted Amount (MGD)	Avg Day Contracted Amount (Acre-Feet per Year)	Fiscal Year 2008 Water Delivered (Acre-Feet per Year)
<u>Member Cities</u>			
Odessa	Not Applicable	Not Applicable	23,000
Big Spring			7,000
Snyder			2,300
Subtotal Members			32,300
<u>Customer Cities</u>			
Midland	28.693	32,165	22,900
San Angelo	16.071	18,016	15,200
Stanton	0.247	276	300
Robert Lee	0.045	50	100
Grandfalls	0.342	384	100
Millersview-Doole WSC	0.982	1,101	600
Abilene (WCTMWD)	13.393	15,013	3,000
Subtotal Customers	59.772	67,005	42,200
Total	59.772	67,005	74,500

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 amount for each for previous year.

Total amount sold for Year 2008 (acre-feet)

Treated	0
Raw	<u>74,500</u>

B. Water Accounting Data

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

Diversions from Lake J. B. Thomas (acre-feet)

Year	2004	2005	2006	2007	2008
January	260	840	1,410	1,380	670
February	490	730	1,240	1,280	1,209
March	330	820	1,380	1,280	1,327
April	710	1,250	1,430	1,320	1,276
May	950	1,210	1,440	1,130	1,052
June	870	1,410	1,490	1,320	1,173
July	860	1,510	1,510	1,400	349
August	670	1,350	1,360	1,440	225
September	760	1,330	1,420	1,370	382
October	390	1,310	1,440	1,400	1,491
November	820	1,400	1,380	1,230	1,288
December	410	1,390	1,320	1,100	959
Total	7,520	14,550	16,820	15,650	11,400

Diversions from E. V. Spence Reservoir (acre-feet)

Year	2004	2005	2006	2007	2008
January	1,400	700	1,250	710	1,141
February	650	400	920	600	807
March	1,140	1,090	770	800	862
April	630	950	920	660	1,026
May	1,260	1,010	1,170	1,190	1,477
June	1,250	1,260	1,370	1,190	1,302
July	1,260	1,330	1,500	1,080	2,257
August	1,190	1,240	1,270	950	2,258
September	1,100	1,560	1,110	900	1,820
October	540	1,430	1,250	1,320	845
November	410	890	710	970	887
December	1,360	710	610	820	1,009
Total	12,190	12,570	12,850	11,190	15,690

Diversions from O. H. Ivie Reservoir (acre-feet)

Year	2004	2005	2006	2007	2008
January	2,940	2,320	2,080	2,190	2,594
February	2,150	1,700	2,360	2,060	2,101
March	2,530	2,460	2,920	2,760	3,007
April	3,940	3,150	3,190	3,310	3,722
May	6,040	4,270	4,430	2,970	5,367
June	5,770	4,770	5,750	3,980	5,176
July	5,720	5,820	5,970	4,330	5,005
August	5,940	4,610	4,800	4,540	4,756
September	5,390	5,000	3,220	3,780	3,754
October	4,040	3,710	3,020	3,650	3,617
November	2,490	2,780	2,810	2,670	3,106
December	2,720	2,610	2,370	2,250	2,987
Total	49,670	43,200	42,920	38,490	45,193

Diversions from Well Fields (acre-feet)

Year	2004	2005	2006	2007	2008
January	180	200	200	140	400
February	160	190	200	150	210
March	170	210	200	170	210
April	150	190	1,080	140	350
May	210	420	1,150	150	130
June	1,120	220	620	180	1,190
July	840	640	680	200	1,170
August	530	200	160	200	500
September	220	220	210	200	200
October	210	130	200	210	180
November	200	170	170	180	100
December	210	220	40	180	20
Total	4,200	3,010	4,910	2,100	4,660

Diversions from Other Surface Supplies (acre-feet)

Year	2004	2005	2006	2007	2008
January	150	990	300	150	750
February	200	920	360	30	680
March	450	790	730	180	800
April	340	310	570	110	740
May	100	430	450	360	510
June	170	360	190	740	420
July	100	150	40	410	440
August	50	490	80	720	570
September	220	290	210	660	400
October	600	590	250	570	590
November	1,140	270	60	540	490
December	1,360	300	60	850	500
Total	4,880	5,890	3,300	5,320	6,890

Total Diversions (acre-feet)

Year	2004	2005	2006	2007	2008
January	4,930	5,050	5,240	4,570	5,555
February	3,650	3,940	5,080	4,120	5,007
March	4,620	5,370	6,000	5,190	6,206
April	5,770	5,850	7,190	5,540	7,114
May	8,560	7,340	8,640	5,800	8,536
June	9,180	8,020	9,420	7,410	9,261
July	8,780	9,450	9,700	7,420	9,221
August	8,380	7,890	7,670	7,850	8,309
September	7,690	8,400	6,170	6,910	6,556
October	5,780	7,170	6,160	7,150	6,723
November	5,060	5,510	5,130	5,590	5,870
December	6,060	5,230	4,400	5,200	5,475
Total	78,460	79,220	80,800	72,750	83,832

2. Wholesale population served and total amount of water diverted for **municipal** use for previous five years:

Year	Total Population Served	Total Annual Water Diverted for Municipal Use (Acre-Feet)
2004	435,347	not applicable
2005	436,331	not applicable
2006	441,227	not applicable
2007	444,742	not applicable
2008	446,261	not applicable

Note: Municipal use is unknown because some water is resold for industrial purposes.

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 requirement from such growth.

Year	Demand (AF/Y)	Source of data
2010	93,344	2006 Region F Plan
2020	96,158	2006 Region F Plan
2030	78,662	2006 Region F Plan
2040	79,434	2006 Region F Plan
2050	79,718	2006 Region F Plan
2060	81,036	2006 Region F Plan

Note: Projections are for current customers only. Additional customers would add to projected demand. Projections include TWDB estimated reductions for plumbing fixtures. Projections are from Region F Regional Water Planning Group information for the 2006 Plan, as approved by TWDB.

III. WATER SUPPLY SYSTEM DATA

A. Water Supply Sources

List all current water supply sources and the amounts available with each:

Type	Source	Amount Authorized (AF/Y)*
Surface Water	Lake J. B. Thomas	30,000
Surface Water	E. V. Spence Reservoir	50,000
Surface Water	O. H. Ivie Reservoir	113,000
Groundwater	Ward County Well Field	8,140
Groundwater	Martin County Well Field	930
Groundwater	Odessa Well Field	510
Total		202,580

* Note: There are no restrictions on the amount of groundwater that can be pumped. The amounts shown in this table are based on the projected reserves in those fields.

B. Treatment and Distribution System

CRMWD does NOT provide treated water to any customer. Section III. B does not apply to CRMWD.

- Design daily capacity of system:
- Storage capacity:
 - Elevated _____ MG
 - Ground _____ MG
- If surface water, do you recycle filter backwash to the head of the plant?
Yes ___ No ___.
- Please describe the water system and attach. Include the number of treatment plants, wells, and storage tanks. If possible, attach a sketch of the system layout.

IV. WASTEWATER SYSTEM DATA

CRMWD does not operate wastewater facilities. Section IV does not apply to CRMWD.

A. Wastewater System Data (if applicable)

- Design capacity of wastewater treatment plant(s): _____ MGD
- Briefly describe the wastewater systems. Identify treatment plants with the TCEQ name and number, the operator, owner, and, if wastewater is discharged, the receiving stream. Please provide a location map showing the plants.

B. Wastewater Data for Service Area (if applicable)

- Percent of water service area served by wastewater system: _____

2. Monthly volume treated for previous three years (in 1,000 gallons):

Year	2005	2006	2007
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			
Total			

APPENDIX E

TCEQ WATER CONSERVATION IMPLEMENTATION REPORT

APPENDIX E

TCEQ Water Conservation Implementation Report



Texas Commission on Environmental Quality

Water Conservation Implementation Report

This report must be completed by entities that are required to submit a water conservation plan to the TCEQ in accordance with Title 30 Texas Administrative Code, Chapter 288. Please complete this report and submit it to the TCEQ. If you need assistance in completing this form, please contact the Resource Protection Team in the Water Supply Division at (512) 239-4691.

Name: Colorado River Municipal Water District
Address: P.O. Box 869, Big Spring, TX 79720
Telephone Number: (432) 267-6341 Fax: (432) 267-3121
Form Completed By: Chris Wingert Title: Planning & Development Manager
Signature: *C. L. Wingert* Date: 8/25/09

I. WATER USES

Indicate the type(s) of water uses (example: municipal, industrial, or agricultural).

Municipal Use, Industrial Use, and Mining Use

II. WATER CONSERVATION MEASURES IMPLEMENTED

Provide the water conservation measures and the dates the measures were implemented.

Description of Water Conservation Measure:

Leak Detection and Repair Program. SCADA System is monitored at all times and helps detect leaks in the system.

Date Implemented: On-going

Description of Water Conservation Measure:

Water Quality Enhancement Program. CRMWD has developed a three-pronged approach to maintain the water quality in E. V. Spence Reservoir: poor quality water diversions, strategic water releases, and TMDL efforts.

Date Implemented: On-going

Description of Water Conservation Measure:

Brush Management Program. Brush control project is intended to eliminate the invasive saltcedar from the watersheds. The program controls the trees by using chemicals and is now being expanded to include biological control.

Date Implemented: Began in 2005 and is on-going

Description of Water Conservation Measure:

Major Rivers Program and Wonderful World of West Texas Water Program for fourth grade students.

Date Implemented: On-going

III. TARGETS

- A. Provide the **specific and quantified five and ten-year targets** as listed in water conservation plan for previous planning period.

5-Year Specific/Quantified Target: not specified in previous plan

Date to achieve target: not specified in previous plan

10-Year Specific/Quantified Target: not specified in previous plan

Date to achieve target: not specified in previous plan

- B. State if these targets in the water conservation plan are being met.
not specified in previous plan

- C. List the **actual amount of water saved**.
not able to quantify water savings

- D. If the targets are not being met, provide an explanation as to why, including any progress on the targets.
not applicable

If you have any questions on how to fill out this form or about the Water Conservation program, please contact the Texas Commission on Environmental Quality at (512) 239-4691.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512-239-3282.

APPENDIX F

LETTER TO REGION F REGIONAL WATER PLANNING GROUP

APPENDIX F

Letter to Region F Regional Water Planning Group

Region F Regional Water Planning Group
c/o Colorado River Municipal Water District
P.O. Box 869
Big Spring, TX 79721-0869

Dear Sir:

Enclosed please find a copy of the Colorado River Municipal Water District's Water Conservation and Drought Contingency Plan. I am submitting a copy of this plan to the Region F Regional Water Planning Group in accordance with the Texas Water Development Board and Texas Commission on Environmental Quality rules. The Board of Directors approved this plan on April 13, 2009.

Sincerely,

Chris Wingert
Colorado River Municipal Water District

APPENDIX G

**COLORADO RIVER MUNICIPAL WATER DISTRICT RESOLUTION
NO. 2009-15 ADOPTING THE WATER CONSERVATION AND DROUGHT
CONTINGENCY AND WATER EMERGENCY RESPONSE PLAN**

RESOLUTON NO. 2009-15

**RESOLUTION OF THE BOARD OF DIRECTORS
OF THE COLORADO RIVER MUNICIPAL WATER DISTRICT
APPROVING THE UPDATED
WATER CONSERVATION AND DROUGHT CONTINGENCY PLAN**

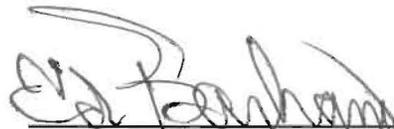
WHEREAS, the TCEQ requires water providers to develop, update and revise their Water Conservation and Drought Contingency Plan; and

WHEREAS, current TCEQ rules require updated plans be submitted in May of 2009; and

WHEREAS, CRMWD has updated and revised its Water Conservation and Drought Contingency Plan and held a Public Meeting on April 21, 2009.

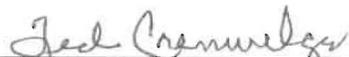
NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Colorado River Municipal Water District does hereby approve the updated version of the Water Conservation and Drought Contingency Plan required by the TCEQ and it becomes effective this 13th day of May, 2009.

ADOPTED AND APPROVED this 13th day of May 2009.



Ed Barham, President

ATTEST:



Ted Crenwelge, Vice President-Secretary

