OMB Number: 4040-0004
Expiration Date: 8/31/2016

Application for Federal Assistance SF-424

* 1. Type of Submission:	* 2. Type of Application:	* If Revision, select appropriate letter(s):
☐ Preapplication	☒ New	
☒ Application	☐ Continuation	* Other (Specify):
☐ Changed/Corrected Application	☐ Revision	

* 3. Date Received:	4. Applicant Identifier:
06/25/2015	

5a. Federal Entity Identifier:	5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:	7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name: McLennan County

* b. Employer/Taxpayer Identification Number (EIN/TIN):	* c. Organizational DUNS:
74-6002492	0216190850000

d. Address:

* Street1:	501 Washington Avenue
Street2:	
* City:	Waco
County/Parish:	McLennan
* State:	TX: Texas
Province:	
* Country:	USA: UNITED STATES
* Zip / Postal Code:	76701-1373

e. Organizational Unit:

Department Name:	Division Name:

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:	Mr.	* First Name:	Tom
Middle Name:			
* Last Name:	Ray		
Suffix:	P.E.		

Title: Water Resources Coordinator

Organizational Affiliation:

* Telephone Number:	254.753.9585	Fax Number:	254.855.0880

* Email: jtray@lan-inc.com

Application for Federal Assistance SF-424

*** 9. Type of Applicant 1: Select Applicant Type:**

B: County Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

Bureau of Reclamation

11. Catalog of Federal Domestic Assistance Number:

15.514

CFDA Title:

Reclamation States Emergency Drought Relief

*** 12. Funding Opportunity Number:**

R15AS00047

* Title:

WaterSMART: Drought Contingency Planning Grants for Fiscal Year 2015

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

Add Attachment | Delete Attachment | View Attachment

*** 15. Descriptive Title of Applicant's Project:**

McLennan County Drought Contingency and Water Supply Resiliency Plan will prepare a drought plan that addresses unique water supply risks in the planning area as well as perform the six basic elements

Attach supporting documents as specified in agency instructions.

Add Attachments | Delete Attachments | View Attachments

Application for Federal Assistance SF-424

16. Congressional Districts Of:

* a. Applicant: 17 | * b. Program/Project: 17

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment | Delete Attachment | View Attachment

17. Proposed Project:

* a. Start Date: 08/03/2015 | * b. End Date: 08/01/2017

18. Estimated Funding ($):

* a. Federal	75,000.00
* b. Applicant	75,000.00
* c. State	0.00
* d. Local	0.00
* e. Other	0.00
* f. Program Income	0.00
* g. TOTAL	150,000.00

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

☐ a. This application was made available to the State under the Executive Order 12372 Process for review on .

☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.

☒ c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**

☐ Yes ☒ No

If "Yes", provide explanation and attach

Add Attachment | Delete Attachment | View Attachment

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: Judge | * First Name: Scott

Middle Name: M.

* Last Name: Felton

Suffix:

* Title: County Jusdge

* Telephone Number: 254.757.5049 | Fax Number:

* Email: smfelton@co.mclennan.tx.us

* Signature of Authorized Representative: Regan Copeland | * Date Signed: 06/25/2015

McLennan County Drought Contingency and Water Supply Resiliency Plan
APPLICATION FOR PART A, NEW DROUGHT CONTINGENCY PLAN PREPARATION

***Applicant*:**
McLennan County, Texas
Honorable Scott Felton, McLennan County Judge
501 Washington Avenue
Waco, Texas 76701

***Project Manager*:**
J. Tom Ray, P.E., D.WRE
215 Mary Street, Suite 305
Waco, Texas 76701-2253
Email: jtray@lan-inc.com
Phone: 254/753-9585
FAX: 254/753-9593

MANDATORY FEDERAL FORMS

- Application for Federal Assistance, Form SF-424
- Assurances— Non-Construction Programs, Form SF-424B

OMB Number: 4040-0004
Expiration Date: 8/31/2016

Application for Federal Assistance SF-424

* 1. Type of Submission:
- [ ] Preapplication
- [x] Application
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* If Revision, select appropriate letter(s):

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* 3. Date Received:

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f. Name and contact information of person to be contacted on matters involving this application:

Prefix: Mr.
* First Name: Tom
Middle Name:
* Last Name: Ray
Suffix: P.E.

Title: Water Resources Coordinator

Organizational Affiliation: Lockwood, Andrews & Newnam, Inc.

* Telephone Number: 254.753.9585
Fax Number: 254.855.0880

* Email: jtray@lan-inc.com

Application for Federal Assistance SF-424

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Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

Bureau of Reclamation

11. Catalog of Federal Domestic Assistance Number:

CFDA Title:

*** 12. Funding Opportunity Number:**

R15AS00047

* Title:

Drought Contingency Planning Grant

13. Competition Identification Number:

Title:

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Planning Area.docx | Add Attachment | Delete Attachment | View Attachment

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McLennan County Drought Contingency and Water Supply Resiliency Plan will prepare a drought plan that addresses unique water supply risks in the planning area as well as perform the six basic elements

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Application for Federal Assistance SF-424

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If "Yes", provide explanation and attach

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☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: Judge * First Name: Scott

Middle Name: M.

* Last Name: Felton

Suffix:

* Title: County Judge

* Telephone Number: 254-757-5049 Fax Number:

* Email: smfelton@co.mclennan.tx.us

* Signature of Authorized Representative: Scott M. Felton * Date Signed: 06/24/2015

OMB Number: 4040-0007
Expiration Date: 06/30/2014

ASSURANCES - NON-CONSTRUCTION PROGRAMS

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management and completion of the project described in this application.

2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.

3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.

4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.

5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).

6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C.§§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U. S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee- 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.

8. Will comply, as applicable, with provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333), regarding labor standards for federally-assisted construction subagreements.

10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).

12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.

13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).

14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.

15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. §§2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.

16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.

17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."

18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

19. Will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits grant award recipients or a sub-recipient from (1) Engaging in severe forms of trafficking in persons during the period of time that the award is in effect (2) Procuring a commercial sex act during the period of time that the award is in effect or (3) Using forced labor in the performance of the award or subawards under the award.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	TITLE
Scott M. Felton	County Judge
APPLICANT ORGANIZATION	DATE SUBMITTED
McLennan County	06/24/2015

McLennan County Water Resources Group

CONTENTS OF THE TECHNICAL PROPOSAL

EXECUTIVE SUMMARY

McLennan County Drought Contingency and Water Supply Resiliency Plan

Date: June 23, 2015
Applicant Name: McLennan County, Texas
Waco, Texas (County Seat)

Proposal Summary:
The McLennan County region faces serious risks to its water resources—long-term drought is the framework that intensifies and triggers those risks. This Plan will integrate contingencies for unique water risks in the area with the standard practice for effective drought contingency planning endorsed by the Bureau of Reclamation. A regional conservation plan that identifies the risks to sustainable water supply and the overall water resources of the region and the means to cooperatively address drought conditions—both advance planning for future drought and emergency plans for existing drought conditions—is proposed. The proposed plan will integrate the two critical components:

1) Planning to address unique water supply resiliency risks identified in McLennan County area that will be intensified during drought conditions; and,
2) Standard drought contingency plan elements that will be incorporate existing drought contingency plans.

The Plan will address the risks triggered or further aggravated by drought occurrence. These include concerns include:

1) Public health concerns with limited groundwater supplies in rural areas that are contaminated with arsenic levels exceeding the current EPA criteria;
2) Uncertainty of the future impacts of the recent occurrence of zebra mussels in Lake Waco; and,
3) Decline in the Trinity Aquifer due to over-reliance and aggravated by climate changes.

The Response and Mitigations Actions will be thoroughly evaluated, but water reuse has already been identified as a key component to drought response because of its potential to free surface water supplies to the groundwater systems with arsenic problems. The diversity of water interests in McLennan County have been working together to address long-term water resources; the McLennan County Water Resources Group, formed on a voluntary basis in 2014 and consisting of the cities, water supply corporations, Brazos River Authority, groundwater conservation district, local citizen and business interests has been informed of the WaterSMART grant opportunity, supports this application, and will assist with successful development and implementation of the Plan. Pertinent aspects of the McLennan County Plan will submitted for incorporation in the regional water plan, the Brazos G Water Plan, and the state water plan.

Timeframe for Plan Completion:
The McLennan County Drought Contingency Plan will be completed within 24 months. The anticipated completion date is May 2017. Certain critical portions of the plan, such as the water reuse components, will be completed and submitted to the Brazos G Regional Planning

Group in the latter part of 2015 in order to be considered for the 2016 Regional and State Water Plans.

Bureau of Reclamation Projects within McLennan County:
There are two significant Bureau of Reclamation projects within the geographic area:

- *Flat Creek Water Reuse Project* – The first water reuse project in Texas to have an Bureau of Reclamation approved Feasibility Study (2008). This a key project to be addressed in the Drought Contingency Plan for McLennan County because it can "free-up" surface water that can be used to replace the arsenic tainted groundwater supplies in rural areas.

- *Lake Waco Wetlands Project* – "Investigating an Innovative Constructed Wetland Design for Attenuating Endocrine Disrupting Compounds from Reclaimed Wastewater Hydrological, Chemical and Biological Monitoring Plan" under the Bureau of Reclamation's (Reclamation) Science and Technology (S&T) Program

BACKGROUND DATA

Planning Area Map

A map of the McLennan County planning area, showing the key features related to its water supply is attached.

General Description of the Planning Area

McLennan County is in the heart of central Texas. It is diverse: rural and metropolitan areas, surface and groundwater supply systems. Drought is not uncommon to the area. Frequently drought conditions occur in the Brazos River basin upstream which has impacts on the water resources of the McLennan County area. Therefore, the proposed drought contingency plan will consider local area drought as well as upstream drought impacts. Under the proposed drought contingency plan, McLennan County will continue to work with the Brazos River Authority in considering upstream drought impacts.

Water Supply – Surface water and groundwater are the two major sources of water supply[1] for the planning area. The major surface water supply is Lake Waco; however, a few cities have accessed surface supplies from Lake Belton. The groundwater supply is predominantly from the Trinity Aquifer with significantly less supply being used from the Woodbine aquifer.

1) Surface Water Supply

Lake Waco and Brazos River water rights are shown in the following table:

Waco	City of Waco	104,100 87,962	39,100 19,100 900 20,770	1/10/1929 4/16/1985 2/21/1979 9/12/1986	McLennan	G

The yield of Lake Waco is 79,877 Acre-feet per year; a few minor reservoirs used primarily for cooling water for power generation are also located in the McLennan County planning area:

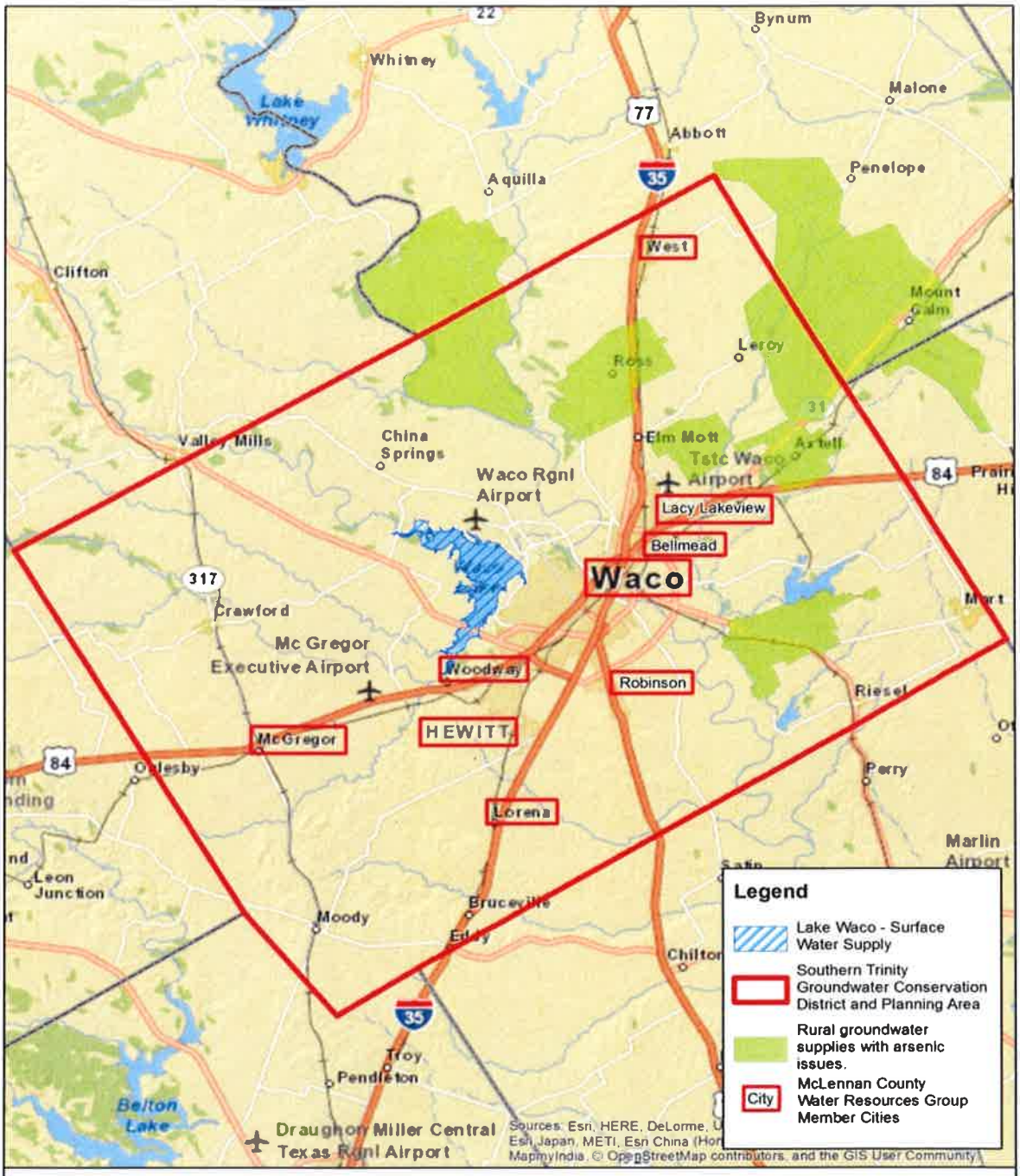
C4342	Tradinghouse	4,908	4,897
C5298	Twin Oaks	2,885	2,795
P5551, P5899	Waco	79,877	79,877
C3693	White Reservoir	1,099	0

2) Groundwater Supply

The Trinity Aquifer is the primary source of groundwater for both urban and rural cities and water supply corporations. The Brazos Alluvium is restricted to areas adjacent to the Brazos River and the shallower Woodbine does not provide sufficient storage for municipal use.

McLennan	Brazos River Alluvium	15,023	15,023	15,023	15,023	15,023	15,023
	Trinity	20,690	20,690	20,690	20,690	20,690	20,690
	Woodbine	5	5	5	5	5	5
	Subtotal	35,718	35,718	35,718	35,718	35,718	35,718

[1] The estimates of McLennan County water supply come the recent draft of the 2016 Brazos G Regional Water Plan.



Planning Area Map

Water Uses:

1. Municipal – The following is a table taken from the 2016 draft of the Brazos G Regional Water Plan. A number of the water users are projected to have shortages based on available supplies. Drought conditions and changes in climate could worsen those shortages.

2. Other water users in McLennan County include significant steam-electric use and deficiencies in meeting future potential demands for irrigation, manufacturing and mining.

Water User Group	Surplus/(Shortage)[1]		Comment
	2040 (acft/yr)	2070 (acft/yr)	
Manufacturing	(2,204)	(2,834)	Projected shortage – see plan below
Steam-Electric	20,224	17,129	Projected surplus
Mining	(2,786)	(3,942)	Projected shortage – see plan below
Irrigation	(2,325)	(2,363)	Projected shortage – see plan below
Livestock	0	0	Demand equals supply

Working Relationships with Bureau of Reclamation

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TECHNICAL PROJECT DESCRIPTION

This project description provides details on the development of a Drought Contingency Plan (Task A) for the Planning Area. It describes how the six required elements for developing drought contingency plans are integrated with and into the specific activities pertinent to the local and regional needs, risks, and circumstances of the McLennan County Planning Area.

Recognizing the Need for Sustainable Water Supply

The starting point for the McLennan County Plan is recognition of the need for sustainable water supply and the risks currently imposed by drought conditions. Located in Central Texas and in the heart of the Brazos River basin, McLennan County is diverse both in its water supply and its variety of water use and water user types.

The Technical Project proposal describes water supply differences in the planning area, identifies and addresses several "risks" to future available water supplies, particularly during drought conditions, and addresses how the risks and overall drought contingency planning can be successfully completed. It shows how the six elements of drought planning be addressed in this context.

The proposed Plan will recognize and address the following key components from a Planning Area-specific perspective:

- disparity in water resources, differences in surface water and groundwater availability;
- variances in demand related to availability and sustainability of the respective supply sources to meet demands; and,
- vulnerabilities of and the challenges facing various supplies during drought conditions.

McLennan County Water Resources Group

A major consideration in preparing the McLennan County Drought Contingency and Water Supply Sustainability Plan, along with a major advantage in its implementation, is the guidance and oversight that will be provided by the McLennan County Water Resources Group (McL Group). The McL Group brings together the diverse water interests of the McLennan County area to provide guidance and support in addressing water needs and water supply sustainability, particularly during drought conditions. Functioning for many months, the McL Group supports this application and the opportunity to partner with the Bureau of Reclamation. The McL Group will provide the administrative framework as envisioned in Element 5 of required drought planning elements. The McLennan County Plan will be developed with the Group's oversight. The cooperative efforts of the McL Group will help lead the successful implementation of the Plan.

Detailed Work Description

For the McLennan County Area Plan, the basic goal of drought contingency planning is to address the unique conditions described above and integrate standard drought contingency planning practices to help ensure an uninterrupted water supply amounts sufficient to satisfy essential human and public needs. The other objectives are to minimize, to the extent possible, the adverse impacts of drought-induced water shortages and other emergency conditions on quality of life, the economy, and the environment.

Water Resources Group

Applying the Six Elements of drought planning (and considering the overall 10-step Drought Planning Process developed by the NDMC) must recognize, properly assess, risks and potential constraints on a localized basis. This is certainly the case with the McLennan County Area Plan.

The Drought contingency plan for the McLennan County area will be a twofold process: first, to recognize, identify and address how certain existing risks and potential constraints to water supply can be overcome and second, to build a drought contingency plan, using the Six Elements, around or to be compatible with resolving those local constraints.

The Six Element or 10-step process can be integrated with site- or area-specific consideration. This is a feasible approach. The Texas guidance manual for drought contingency planning makes the point:

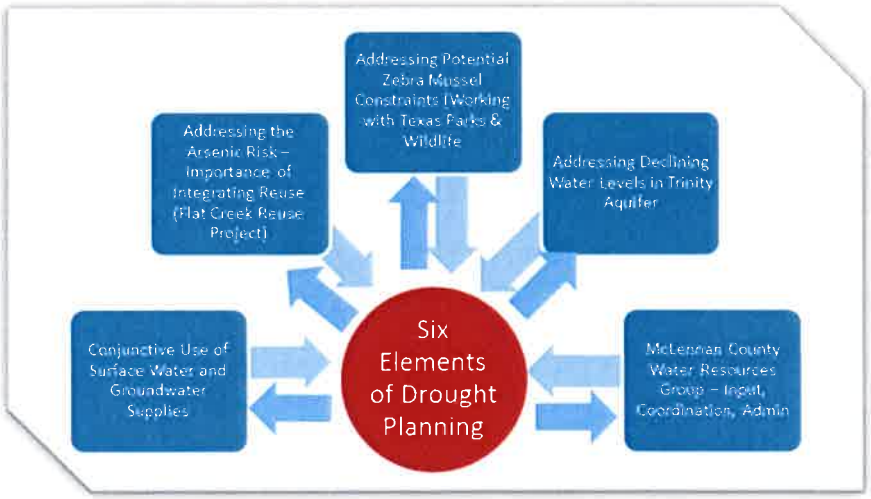
> *At the very outset it should be emphasized that a "good" drought contingency plan is, almost by definition, one that is tailored to the unique conditions and circumstances of each individual water supplier. With few, if any, exceptions, no two wholesale public water suppliers face identical circumstances or conditions with respect to water supply availability, the water demand characteristics of their customers, or the capacity and limitations of their water supply facilities.*

And concludes by making the final point that:

> *However, despite the many differences among water suppliers, there is a fairly standard six-step process that can be followed to develop an effective drought contingency plan and satisfy State requirements.*

Specific Activities Framework for McLennan County Planning Area

The following describes the technical approach to addressing several water supply concerns and conditions unique to the McLennan County Area. Other circumstances or conditions may also be identified during preparation of the plan. Integrating specific actions with the standard elements of drought contingency planning will be an iterative process, recognizing the need to resolve or management water supply risk with the constraints of cost, environmental factors, and implementation difficulties.

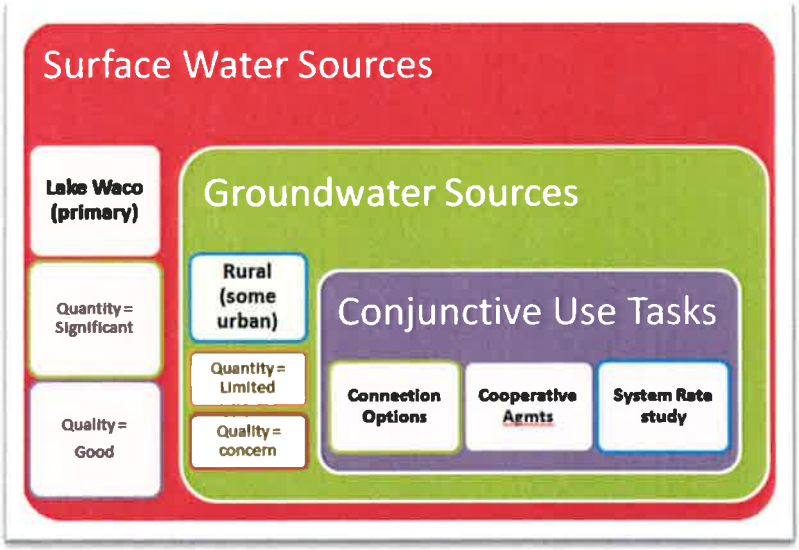


The adjacent graphic illustrates the effort. Each unique condition is discussed in more detail and an indication of the specific planning action to address it is presented in the following sections.

Conjunctive Use of Surface Water and Groundwater Supplies

The McL Group members are familiar with the concept and potential benefits of "conjunctive use" of surface water and groundwater supplies. The McLennan County area is well suited for conjunctive use having a major surface water supply at Lake Waco and the use of limited and at risk groundwater supplies used primarily in the rural areas. One of the primary objectives of the conjunctive use system are to address drought conditions, preserve the area's limited groundwater sources, maximize the use of both groundwater and surface water supplies, provide relief to rural groundwater systems with arsenic contamination problems, and prepare for future growth of the area.

With increased pressure on groundwater supplies from declining aquifer conditions, potential reduction allocation of Groundwater Availability assigned to McLennan County, the presence of arsenic contamination in some groundwater supplies, and drought impacts leading to increased pumping, the need to consider conjunctive use is evident. However, there are significant challenges.



Conjunctive use must be considered on a regional basis, but significant disparity current exists between the surface water and groundwater system. The Lake Waco surface water system is not functionally connected to many of the rural groundwater systems. The water qualities of the two systems are different and may not be compatible. Drought impacts the two systems differently. Most significantly, the water rates for surface water system customers and groundwater system customers are significantly dissimilar.

Despite these differences and through the cooperative efforts of the McL Group that represents both surface water and groundwater systems in the planning area, a conjunctive use plan will be developed. The conjunctive use plan will be the means to effectively address the other concerns listed below. The connection of the surface water and groundwater system will require more than installing pipelines and sharing supplies. The following tasks will be required:

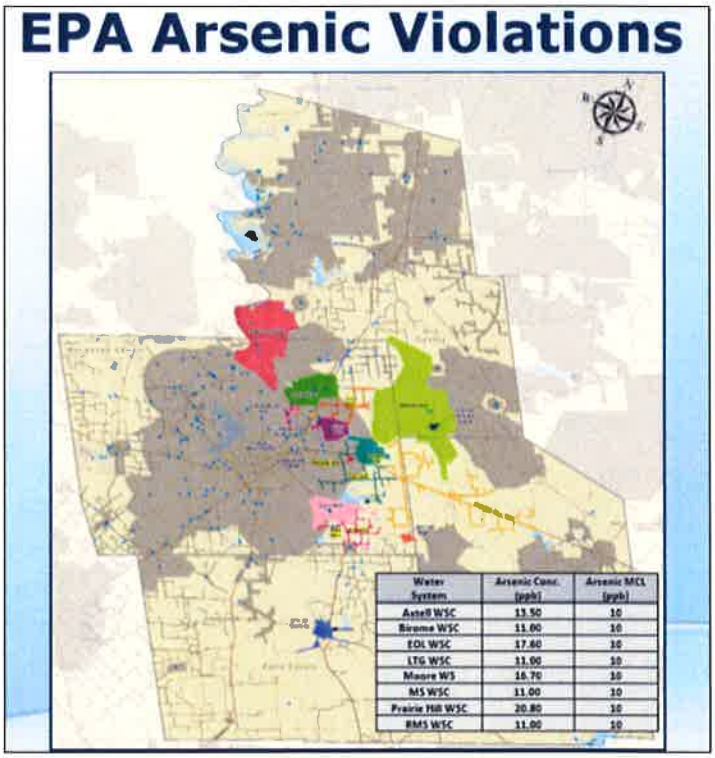
- Identifying existing system conditions and required improvements;
- Using water reuse supplies to free surface water for conjunctive use;
- Recognizing impacts of climate change and disruption to both surface and groundwater hydrology of the planning area;
- Layout and evaluating of effective system connection options;
- Developing a framework for cooperative agreements;
- Recognizing potential drought impacts and means to mitigate or manage the risk imposed by drought conditions;

- Preparing cost estimates for capital improvements and operation of alternative conjunctive systems; and,
- Developing cost-of-service and rate evaluations to provide "system rate" determination.

Reducing the vulnerability of the planning area to drought through conjunctive use will be a factor in evaluating the extent and limits of a McLennan County area conjunctive use system.

Addressing the Arsenic Risk – Importance of Integrating Reuse (Flat Creek Reuse Project)

Arsenic contamination in concentrations marginally over the EPA limit in the groundwater supplies of several rural water systems are an existing public health concern. The adjacent map shows the groundwater systems impacted by arsenic contamination. The McL Group has discussed the concern and will support planning efforts to replace or supplement those groundwater supplies with Lake Waco surface water supplies. However, Lake Waco supplies are currently committed. A means of making sufficient Lake Waco treated water supplies available will identified, planned and implemented.



The Flat Creek Reuse project, which has an approved Bureau of Reclamation Feasibility Study completed, is the most viable option for replacing treated water supplies and freeing sufficient surface water to replace or supplement the contaminated groundwater supplies.

Addressing Potential Zebra Mussel Constraints (Working with Texas Parks & Wildlife Department)

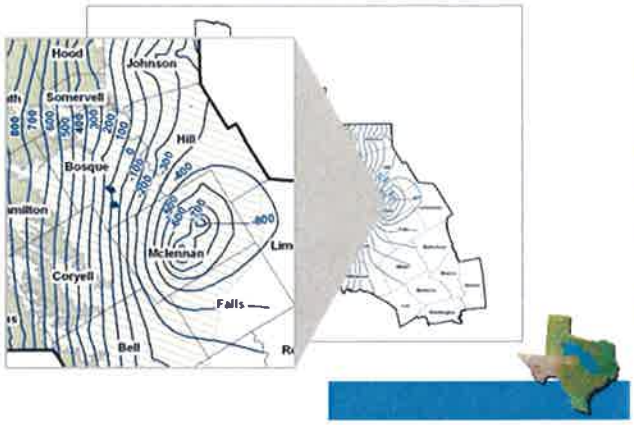
The Texas Parks & Wildlife Department (TPWD), working with City of Waco staff, recently found Zebra mussels in Lake Waco, the primary surface water supply for the planning area. The City of Waco staff has worked closely with the TPWD biologists to monitor the occurrence and spread. The expertise of the Bureau of Reclamation in the area of invasive mussels has provided Lake Waco water managers with information and planning tools to assess the situation and take action as required.

Zebra mussels can be controlled; however, during drought conditions the need to ensure accessibility to the Lake Waco supplies is critical. As part of the McLennan County Plan the risk due associated with the potential establishment of zebra mussels in Lake Waco will be assessed. The McL Group through the City of Waco staff will work closely with the TP&WD in monitoring zebra mussel occurrence in Lake Waco and other nearby lakes and water bodies. An assessment of the vulnerability facilities based on occurrence will be completed and updated as required.

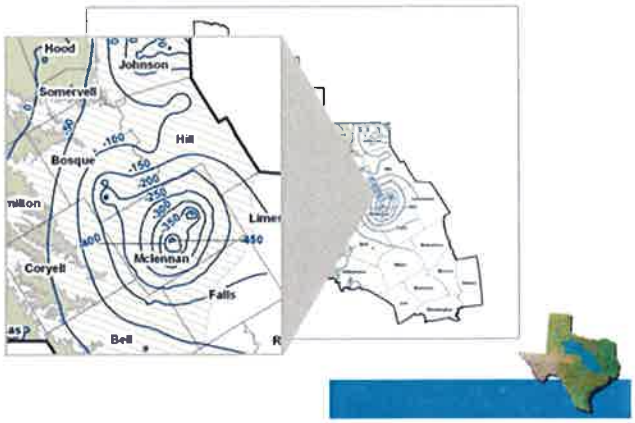
Addressing Declining Water Levels in Trinity Aquifer

The Trinity Aquifer is the primary groundwater source for the McLennan County Planning Area. Due to changes in climate and unsustainable pumping, particularly during drought conditions, the water levels of the Trinity Aquifer have decreased and the drawdown levels increased both significantly and both in recent years. The McL Group recognized this situation as a major contributing factor to the vulnerability of the area's groundwater supply in the future.

Trinity Aquifer Water Levels



Trinity Aquifer Drawdown



With this vulnerability recognized, the McLennan County Area plan will include the following tasks:

- Monitoring the water levels and drawdown of the Trinity Aquifer with increased frequency during drought conditions;
- Coordinate with the TWDB on any revisions or updates to the Groundwater Availability Modeling; and,
- Work with the Southern Trinity Groundwater Conservation District; and,
- Assist with public outreach on the status of Trinity Aquifer and need for conservation.

Integrating Drought Contingency Planning Elements - Applying the Six Drought Planning Elements

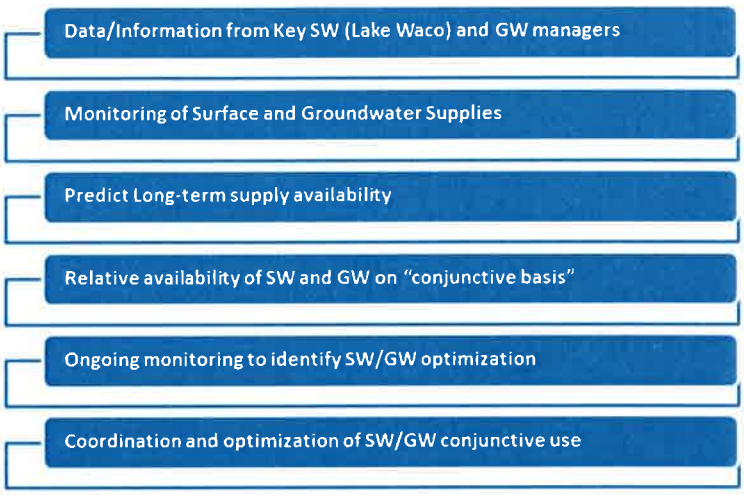
As mentioned above, the planning to address unique elements in the McLennan County Area will be integrated with the more standard but essential elements to build a comprehensive drought contingency plan. The Six Elements outlined in the FOA are required but will be used as guide and adapted appropriately to the drought and climate conditions of the McLennan County Area Plan.

The McL Group will have a primary role in coordinating the outreach to the public and providing for timely updates to the plan.

Drought Monitoring

Drought monitoring will be based on key factors to establish a baseline for water conditions and provide ongoing drought condition information used to trigger response actions. The McLennan County through the County Judge or his designee shall monitor key water supply and demand conditions in cooperation with the City of Waco and its routine monitoring of Lake Waco, the Brazos River Authority and its monitoring of drought conditions throughout the Brazos River basin, and with Southern Trinity Groundwater Conservation District and its monitoring of well information collected throughout the planning area. Well monitoring information available from the TWDB will also be included in the drought monitoring efforts.

For the McLennan County Area Plan, the objectives of the Drought Monitoring are twofold: 1) to identify drought conditions through coordination with other entities having established drought contingency plans; and, 2) to guide the implementation and optimization of the conjunctive use of surface water and groundwater within the planning area. The relative availability of each supply source prior to and during a drought condition coupled with water demands will be monitored.



The Drought Monitoring tasks include collection of drought-related information monitored by others for surface and groundwater availability. The information collected will be used in forecasting future availability. Historical (seasonal) and existing conditions will provide a baseline for use with predictive models to forecast potential drought conditions under various hydrologic conditions. The impact of existing and forecast drought conditions on both Lake Waco and groundwater availability will be estimated.

The supply availability information will summarized and made available and disseminated to McLennan County Area water managers and users through electronic (web-based) clearinghouse. Individual McL Group members will have assist in disseminating drought-related information.

Vulnerability Assessment

The vulnerability of supply sources will be assessed based on an assessment of the risk to both groundwater and surface water (Lake Waco) supplies. Information from the Drought Monitoring tasks will provide the basis for this assessment. During drought conditions, groundwater vulnerability from both declining aquifer levels and water quality (arsenic contamination) is expected to be much greater than the surface water vulnerability. Lake Waco is expected to provide a more dependable supply (less elastic response to drought) than rural groundwater systems. Therefore, the vulnerability assessment, at during the initial drought conditions, will focus on groundwater systems and determine potential risks. The

potential risks will be considered for a range of future hydrologic conditions and drought conditions.

The responses to the potential risks will be assessed. Key metric and triggers will be established for predicting the vulnerability of both groundwater and surface systems. The McLennan Drought Planning Task force appointed by the McL Group will coordinate and review an ongoing vulnerability assessment prior to and during drought conditions.

Mitigation Actions
The McLennan County Area Plan will include the specific actions and task discussed above to provide for mitigation of drought impacts and build long-term water supply sustainability and resiliency to drought. The actions that will be assessed initially include the following:

- Opportunities for conjunctive use by expansion of the Lake Waco surface water transmission to vulnerable groundwater areas;
- Drought condition water management to reduce demand on vulnerable groundwater systems;
- Public information and outreach efforts prior to and during drought conditions; and,
- Coordination McLennan County Area water managers through the Drought Planning Task Force and the McL Group.

Mitigation actions will be recorded in a database maintained by the Drought Task Force. The database will include all actions pertinent actions under Plan, including Mitigation Actions, Response Actions, and updates based on Routine schedule or Evaluation schedule (see sections below).

Response Actions
Appropriate response actions that can be implemented prior to and during drought conditions will be identified. Several of those actions, which will be evaluated in the McLennan County Area Plan are described above and involve actions to optimize surface water and groundwater supplies through conjunctive use. However, other actions, including a robust public outreach effort will be included in the response actions considered.

The assessment of response actions will include the timeframe required to implement the action. This is particularly important for conjunctive use response actions. For conjunctive use, the Plan will identify the steps needed to implement the action from assessment and determination of a trigger conditions, notification of the need for conjunctive use actions, determination of the relative magnitude of surface water (or groundwater) required to supplement and mitigate drought impacts, and estimating the time requirements for the action to stay in operation.

In addition to conjunctive use, other response actions will be identified and prioritized through the Drought Task Force. An overall strategy for implementing, coordinating and making the public aware of drought response actions will be developed. Emergency response actions must be coordinated through the water system managers having jurisdiction and legal authority to carry out the action.

Operational and Administrative Framework
The existing McL Group will provide the coordination required for cooperative action. The diversity of stakeholders requires that the McL Group provide this critical coordination. The administrative framework will consist of the following tiers of responsibilities:

- McLennan County, County Judge
- McL Group – Coordination and triggering cooperative actions
- McLennan County Area Drought Task Forces – Assist in developing McLennan County Area Plan, input to the McL Group, dissemination of information

The operations framework will provide for the implementation of the Plan elements:

- Drought monitoring – Drought Task Force to oversee data collection based on monitoring done by the City of Waco, Brazos River Authority, and others
- Response Actions – Initiated through the McL Group through coordination with water system managers
- Mitigation Actions – Coordinated through the McL Group and Task Force and implemented by the water system managers
- Update of the Plan – McL Group and Drought Task Force

Plan Update Process
Regular updates or periodic revisions based on interim Plan evaluations will be completed based on the following schedule:

Process	Schedule
Routine Update	Every five (5) years
Evaluation Reviews	
Implementation of Project to Address Risk and Identified Vulnerabilities, and other similar)	Within one (1) of Specific project implementation
Climate change impacts and alternations to water management or other baseline factors	End of each Water Year or as triggered by TCEQ Drought Monitoring Alerts
Public Outreach Effectiveness	Annual Review

The five-year Plan updates and the evaluation review updates will be under the direction of the McL Group and coordinated directly with the Drought Task Force. The Drought Task Force will have responsibility for identifying Plan elements for evaluation. Evaluation of climate impacts and public outreach will be required on an annual basis and conducted through the Drought Task Force.

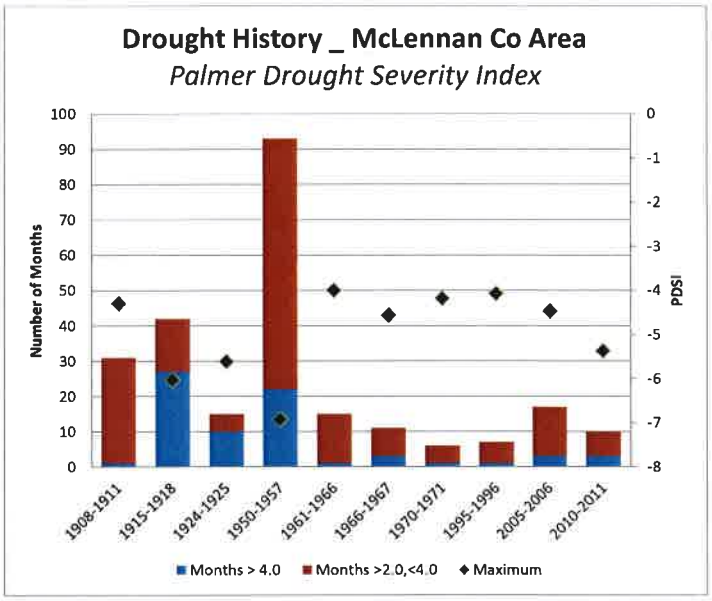
Water Resources Group

EVALUATION CRITERION

Evaluation Criterion A – Need for a Drought Contingency Plan

Existing and Recent Droughts

With recent rains throughout Texas, the McLennan County Plan will be prepared during non-drought conditions. However, based on the climatological history of Texas, the Brazos River basin and McLennan County, this is likely to be only a short window before the next drought impacts the planning area. Importantly, the McLennan County Plan will be prepared *prior to* the next drought cycle. The chart shows the historical and recent drought conditions that affect the area's water resources. The major drought of the 1950's stands out as most severe but from 1908 to 2011 the region has been in severe drought (-4 or worse PDSI) for over 30 of those years. The chart clearly shows the cyclical nature of the major droughts. Both severe long-term and intervening short-term drought conditions will be considered for the McLennan County area (see the Planning Area map under the *Background Section*).



The most recent drought began in 2011 and impacted groundwater supplies in the planning area. On October 4, 2011 the most severe drought conditions were experienced: only 3% of the state was not in extreme drought and "almost 88% of Texas was classified as exceptional drought." It was estimated the 2011 drought cycle caused the economy to lose roughly $8 billion. Numerous water systems, particularly smaller, groundwater-based systems, were impacted; some required extreme measures to maintain water for health and public safety.

Future Droughts and Climate Impacts

The historical and recent droughts were severe, but future droughts cycles are likely to be worse. The National Climate Assessment 2014 report projected the significant future impacts due to climate change (see box).

Projected Climate Change Impacts to McLennan Area

By 2070:

- Projected number of days exceeding the current hottest temperature is 13-19 days
- Projected number of warmest nights is 35-45
- Projected number of consecutive dry days is 2-4

By 2100:

- Projected change in number of dry days is 15%
- Avg. precipitation change of -15%
- Changes in soil moisture are around -5% to -10%

Source: *NCA2014.globalchange.gov*

In a 2011 Texas drought briefing before the Texas Legislature, Dow and TNS stated that due to climate changes: **"By 2050 total annual flow in the Brazos River could be reduced by 20-26%."**

Water Supply System Risk

During drought conditions, the most severe water supply risk will be to the groundwater dependent systems throughout McLennan County. Two issues compound to make this risk of concern whenever abnormally dry conditions exist: 1) the Trinity Aquifer, the primary groundwater source, continues to decline and during drought conditions that decline is rapid; and, 2) a number of the rural systems are hampered by arsenic concentrations in the groundwater supply. The severity of the water supply risk is the potential loss of these groundwater supplies due to the combined arsenic contamination and reduction of availability during intermediate to severe drought conditions. If the drought conditions encountered in 2011 timeframe return or if the climate conditions become drier and hotter, it could be catastrophic for these rural systems.

Public Health Concerns

The public health concerns with associated with the drought impacted and arsenic contaminated rural groundwater supplies include exceeding the EPA drinking water limit for arsenic. These systems are **experiencing violations of the EPA limits**. The secondary impacts include the loss of customers, both existing and potential future customers, due to the lack of supply and arsenic contamination.

Economic Impacts

The economy of the rural area will be negatively impacted by loss of customers, which would include many engaged in area agriculture. The cost of conjunctive use to mitigate drought impacts for groundwater systems will result in water rate increases. Because of the significance of the conjunctive use of Lake Waco, **an area-wide system water rate is needed**. Not only will these systems blend water supplies, the cost of those supplies will also be proportionately blended. The McLennan Plan will include a system rate evaluation.

The extent of the risk cannot be mitigated by conservation or reductions in water use; both conditions require replacement or supplemental water supplies. **Fortunately, there is an alternative supply, the major surface water supply at Lake Waco.** However, the Lake Waco supplies are currently committed. In order to replace or supplement the impacted groundwater systems, currently committed surface water supplies need to become available. Replacement of treated surface water with reuse supplies made available from highly treated effluent holds promise. This replacement project will be addressed in the McLennan County Plan.

It is not only the rural groundwater systems at risks. Urban systems, with groundwater and surface water available, can have problems during drought conditions. For example, The City of Woodway obtains its water supply from the Trinity Aquifer, from Lake Waco from the City of Waco, and from Lake Belton from Bluebonnet WSC. The supply contracts are adequate to meet demands; however under drought conditions, Bluebonnet WSC may not be able to provide the full contract amount to all of its customers, including Woodway.

Supply Availability and Environmental Concerns

It remains to be seen the extent of future impacts of zebra mussel establishment at Lake Waco will have on water supply availability and whether these impacts will be exacerbated during drought conditions. From a water supply perspective, zebra mussels can be removed as part of the raw water intake and treatment system. However, **zebra mussels pose an environmental hazard to the ecosystem of Lake Waco**. Once established, the zebra

mussels feeding will filter suspended solids and clearing the Lake's turbidity resulting in many negative changes to its ecology.

Why Plan is Needed

Two excellent drought contingency do exist; however, neither plan is adequate whether individually or together to address the drought risk associated with the groundwater systems in the McLennan County area. The McLennan County Water Resources Group is working cooperatively to preserve the groundwater resources of the area through conjunctive use of the area's surface water supply with the limited groundwater supplies; those plans are not considered in the existing plans. Conjunctive use planning and the supply transmission projects that result are major Mitigation Actions needed to build water supply resiliency for all of McLennan County. Further, the existing plans do not adequately or specifically consider impacts of climate changes.

Existing Plans

The two existing drought contingency plans of interest are 1) the City of Waco's Plan that considers Lake Waco and the City's water customers; and, 2) the Brazos River Authority's Drought Contingency Plan that includes all surface water reservoirs in the Brazos River basin. Both Plans are included in the Brazos G Regional Plan and monitored and update on a regular basis. Both existing plans follow sound drought contingency planning principles and include specific triggers for drought conditions with response actions prescribed for each. The Brazos River Authority plan is a wholesale water supply plan whereas the Waco plan is a retail user plan. Copies of both plans are provided in the Appendix.

A new plan is critically needed to address the supply risks of the groundwater area. This cannot be done without both surface water (Lake Waco) and groundwater managers working together. The ultimate means of mitigating the groundwater risk is finding a means to conjunctive use surface water supplies.

Why Plan Does Not Exist

A new drought contingency for planning and implementing the groundwater, conjunctive use responses and mitigation projects has not been undertaken previously for a number of reasons:

- Smaller groundwater systems do not have the resources to support the planning (the cooperative effort with Waco, McL Group and Reclamation was not available):
- Replacement supplies using reuse in conjunctive use had not been identified;
- The McL Group was only recently formed in October 2014;
- The arsenic contamination problem emerged only after the EPA limit was lowered from to 10 micrograms per liter.

Evaluation Criterion B – Diversity of Stakeholders

There is a diverse group of stakeholders in the planning area with interest water supply, the environment, agriculture and drought planning. Many of those are already committed to the planning process described in this application. Others are aware of the need and will be asked to join the planning effort. The diversity of already committed stakeholders includes all major cities, the urban and rural water supply corporations, managers of groundwater as well as wholesale and retail surface systems, the Brazos River Authority, the Southern Trinity

Groundwater Conservation District, the Texas Farm Bureau, public representatives and business leaders.

Stakeholders Identified to Date

McLennan County Plan Stakeholders Diversity								
Entity	McL Water Resources Group	Expressed			Diversity			
		Commitment	Interest	Expected	M&I	Rural	Ag	Env
McLennan County	☑	☑	☑		✓	✓	✓	✓
City of Waco	☑	☑	☑		✓			
City of Bellmead	☑	☑	☑		✓			
City of Hewitt	☑	☑	☑		✓			
City of Lacy-Lakeview	☑	☑	☑		✓			
City of Lorena	☑	☑	☑		✓			
City of McGregor	☑	☑	☑		✓			
City of Robinson	☑	☑	☑		✓			
City of West	☑	☑	☑		✓			
Bluebonnet WSC	☑	☑	☑		✓	✓		
Brazos River Authority	☑	☑	☑		✓	✓	✓	✓
Southern Trinity Groundwater Cons District	☑		☑		✓	✓	✓	✓
Texas Farm Bureau	☑		☑			✓	✓	
Community Members	☑		☑		✓	✓	✓	✓
Texas Parks & Wildlife Department			☑	☑				✓
Baylor University			☑	☑				✓
Waco Wetlands Research & Education Center			☑	☑				✓
Texas Water Development Board				☑	✓	✓	✓	✓

Commitments to Date

The application for grant funding under this FOA was presented at the May 21, 2015 meeting of the McLennan County Water Resources Group. After considerable discussion of the need for a plan to address area water sustainability needs and the clear connection to drought resiliency, the Group not only endorsed preparing and submitting an application but informally discussed commitments to fund the local share match. The local match would be allocated to the municipalities on a pro-rata, population basis. McLennan County would provide support on a basis yet to be determined.

Efforts to Identify Additional Stakeholders

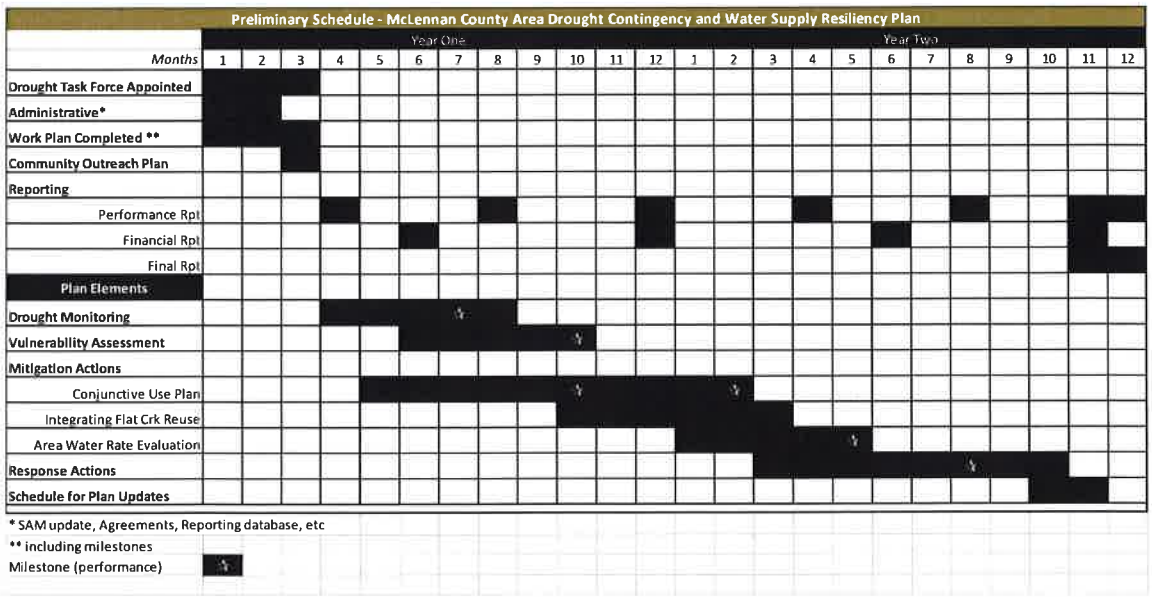
Since the formation of the McL Group, its leadership has identified and invited additional members to participate. For preparation of the Plan, the McL Group will identify additional members with interests related to the Plan preparation or implementation. The McL Group will also identify and recommend candidates for the Plan's Drought Task Force.

Evaluation Criterion C – Project Implementation

Addressing the Six Elements

As described in the *Technical Proposal* section in more detail, the six standard planning elements will incorporate planning to address the water risk elements unique to the planning area. The Drought Task Force will oversee the effort. A consultant with expertise in drought contingency and water supply planning will conduct the planning. The consultant will work with the Task Force in preparing the Work Plan that will identify how each of the six elements will be addressed and accomplished. Public input on the Work Plan will be included. The **Drought Monitoring** element defines a data collection and evaluation plan; existing drought monitoring information at both the State and regional (Brazos River Authority) will be used. Extensive historical drought data and daily updates are available from State and national agencies. Drought models used by the Brazos River Authority for the Brazos River basin and by the Texas Commission on Water Quality for the State will be used as appropriate. The consultant will identify risks in the first step of the **Vulnerability Assessment**; however, the Drought Task Force, McL Group members, public and environmental interests will provide input and comment. The **Mitigation Actions** and **Response Actions** will be based on input to local water risk and identified drought vulnerabilities. The consultant will build a suggested set of actions, both for mitigation projects and for triggered response actions; this will include an initial prioritization. The actions and suggested priorities will be thoroughly reviewed with the Drought Task Force and adopted by the McL Group.

Project Schedule



Staff Expertise

The consultant expertise will be provided by J. Tom Ray, P.E., D-WRE, who has over 35-years of water supply and management experience. His experience includes 20 years with the management of the Brazos River Authority; and 15 years of engineering consultant

experience with Lockwood, Andrews & Newnam (LAN) as the firm's Water Resources Manager. Mr. Ray has lived in McLennan County for over 35 years and works out of the Waco Office of LAN.

Evaluation Criterion D – Nexus to the Bureau of Reclamation

Bureau of Reclamation Projects within McLennan County

There are two significant Bureau of Reclamation projects within the geographic area:

Flat Creek Water Reuse Project – The first water reuse project in Texas to have a Bureau of Reclamation approved Feasibility Study (2008). This a key project to be addressed in the Drought Contingency Plan for McLennan County because it can "free-up" surface water that can be used to replace the arsenic tainted groundwater supplies in rural areas.

Lake Waco Wetlands Project – "Investigating an Innovative Constructed Wetland Design for Attenuating Endocrine Disrupting Compounds from Reclaimed Wastewater Hydrological, Chemical and Biological Monitoring Plan" under the Bureau of Reclamation's (Reclamation) Science and Technology (S&T) Program

LETTERS OF SUPPORT

PO BOX 1728
WACO, TEXAS 76703-1728

June 25, 2015

Bureau of Reclamation
Financial Assistance Management Branch
Attn: Ms. Irene M. Hoiby
P.O. Box 25007
Denver, CO 80225

RE: Letter of Support
McLennan County Application for Grant Funding (FOA No. R15AS00047)
McLennan County Drought Contingency and Water Supply Resiliency Plan

Dear Ms. Hoiby,

This letter is to document our support for the referenced application and for the development and implementation of the Drought Contingency and Water Supply Resiliency Plan. As active members of the McLennan County Water Resources Group, we are committed to a cooperative effort to provide sustainable, drought-resilient water supply for the region. Droughts, which in a cyclic pattern that is strongly influenced by changing climate, are increasing in severity and duration in Texas in the Brazos River basin, which is directly connected to our McLennan County region's water resources. Advanced planning for drought extremes is critical to avoid a number of water-related risks identified in the McLennan County application. The opportunity to transfer the Bureau of Reclamation's technology and information will aid us in preparing a drought contingency and water supply resiliency plan that is both timely and appreciated.

The McLennan County Water Resources Group represents a diverse group of cities, water supply corporations, the Southern Trinity Groundwater Conservation District, the Brazos River Authority, environmental, public, business and industrial interests. This Group will be a major part of the administrative framework needed for the planning effort, and will provide critical coordination between local water managers. The Group will also assist with public outreach as the plan is developed and implemented.

The drought-driven risks are as diverse. The local groundwater supply is limited today and subject to over-pumping. With the more stringent requirements recently adopted by EPA, the rural water supply systems face arsenic contamination issues that must be addressed. The accessibility of the major water supply for the region, Lake Waco, is impacted by a recently confirmed occurrence of zebra mussels. All of these risks and the alternatives for resolving them would be addressed in the Plan.

As members of the McLennan County Water Resources Group, we fully support the McLennan County application and urge the Bureau of Reclamation to recognize the importance and need for its support and funding.

Sincerely,
The undersigned members of the McLennan County Water Resources Group:

Judge Scott Felton
McLennan County

Mayor Malcolm Duncan
City of Waco

Kevin Evans
City of McGregor

Scooter Radcliffe
Southern Trinity Groundwater
Conservation District

Bo Thomas
City of Bellmead

Adam Miles
City of Hewitt

Billy Clemons
City of Lorena

<Agreed to Sign>

Shelly Nors
City of West

Jim Forte
Brazos River Authority

Robert E. Cervenka
City of Robinson

OFFICIAL RESOLUTION

RESOLUTION NO.: 10-16-2015

A RESOLUTION FOR SUBMITTAL OF AN APPLICATION TO THE BUREAU OF RECLAMATION TO SUPPORT MCLENNAN COUNTY SUSTAINABLE WATER SUPPLY AND DROUGHT CONTINGENCY PLANNING THROUGH THE WATERSMART PROGRAM.

WHEREAS, McLennan County participates in and supports the efforts of the McLennan County Water Resources Group to provide a sustainable and reliable water supply for all of McLennan County; and,

WHEREAS, the McLennan County Water Resources Group is a voluntary alliance comprised of representatives from McLennan County cities and water supply corporations, the Southern Trinity Groundwater Conservation District, the Brazos River Authority, Texas Farm Bureau, and at-large community members working together to help achieve a sustainable water supply for McLennan County for the future; and,

WHEREAS, the McLennan County Judge serves on and provides leadership to the McLennan County Water Resources Group; and,

WHEREAS, the WaterSMART supports local governments in preparing long-term sustainable water supply plans aimed at providing resiliency during drought conditions; and,

WHEREAS, the objectives of the WaterSMART grant are consistent with the objectives of the McLennan County Water Resources Group in providing for and protecting the long-term water supply for McLennan County; and,

WHEREAS, McLennan County will participate in the study by providing staff support as other in-kind services, should the grant funding be awarded; and

WHEREAS, the McLennan County Water Resources Group will work collaboratively with McLennan County to pursue implementation of solutions for protecting and sustaining water supplies for McLennan County identified through the proposed WaterSMART planning effort;

NOW, THEREFORE, BE IT RESOLVED THAT the Commissioners Court of McLennan County hereby approves the preparation and submittal of an application for a WaterSMART planning grant for water sustainability and drought contingency planning.

PASSED AND APPROVED this 16th day of June, 2015 by affirmative vote of the McLennan County Commissioner's Court.

Scott M. Felton

Scott M. Felton, County Judge
McLennan County, Texas

ATTEST:
J. A. "ANDY" HARWELL, County Clerk
McLennan County, Texas

Kelly Fullbright

BY: Deputy County Clerk

McLennan County Water Resources Group

PO BOX 1728
WACO, TEXAS 76703-1728

June 23, 2015

Bureau of Reclamation
Financial Assistance Management Branch
Attn: Ms. Irene M. Hoiby
P.O. Box 25007
Denver, CO 80225

RE: **Letter of Commitment**
McLennan County Application for Grant Funding (FOA No. R15AS00047)
McLennan County Drought Contingency and Water Supply Resiliency Plan

Dear Ms. Hoiby,

This letter is to document our commitment to provide the local cost-share required for the development and implementation of the Drought Contingency and Water Supply Resiliency Plan if funded at the budget amounts shown in the referenced application document.

At the May 21, 2015 meeting of the McLennan County Water Resources Group, agreed to prepare and submit the application, recognized the local cost-share requirement and generally agreed to the method of providing the local cost share with final arrangement depending on award.

The local cost share will be allocated on a population basis to the municipal members of the Group. McLennan County will also provide a local cost share contribution, in an amount to be determined.

The amount of local cost-share commitment for this project is $75,000. If the project is awarded, the City of Waco, McLennan County and other members of the McLennan Water Resources Group will finalize the funding allocation arrangement and provide commitment letters to you no later than 30 days after notice of award.

Sincerely,

Scott Felton,
Judge
McLennan County

Dale Fisseler
City Manager
City of Waco

JBI

MCLENNAN COUNTY, TEXAS

FISCAL YEAR 2015
CONSOLIDATED LOCAL CENTRAL SERVICES
OMB A-87 COST ALLOCATION PLAN
And
INDIRECT COST RATE PROPOSAL
Based on Fiscal Year 2013 Expenditures

CERTIFICATION STATEMENT

This is to certify that I have reviewed the cost plan submitted herewith and to the best of my knowledge and belief:

(1) All costs (for the fiscal year ended September 30, 2013) included in this proposal dated January 21, 2015, to establish cost allocation or billings for the period of October 1, 2014 to September 30, 2015, are allowable in accordance with the requirements of OMB Circular A-87, "Cost Principles for State, Local, and Indian Tribal Governments," and the federal award(s) to which they apply. Unallowable costs have been accounted for in allocating costs as indicated in the cost allocation plan.

(2) All costs included in this proposal are properly allocable to Federal awards on the basis of a beneficial or causal relationship between the expenses incurred and the awards to which they are allocated in accordance with applicable requirements. Further, the same costs that have been treated as indirect costs have not been claimed as direct costs. Similar types of costs have been accounted for consistently.

I declare that the foregoing is true and correct.

McLennan County, Texas

Signature: 

Mr. Stan Chambers
McLennan County Auditor

Date of Execution: 1-27-15

Indirect Cost Rate Calculation

Total Allowable Indirect Costs:	**11,778,202**	**= 27.37% County-wide Indirect Cost Rate***
Total Operating Salaries and Fringe:	**43,034,992**	

**Indirect Cost Rate adjusted by Carry Forward*

REQUEST FOR A COST-SHARE REDUCTION OR WAIVER

A reduction in cost-share is not requested.

FUNDING RESTRICTIONS

The applicant understands the pre-award cost restrictions and allowable pre-award costs.

REQUIRED PERMITS OR APPROVALS

It is not anticipated that any permits or approvals will be necessary to carry-out the planning phase of this project.

APPENDIX

Existing Drought Contingency Plans

1. City of Waco with 2009 Update
2. Brazos River Authority

CITY OF WACO

Water Utility Services

Post Office Box 2570 Waco, TX 76702-2570
CCN #: 10039
PWS #: 1550008

Drought Contingency Plan

2009

CITY OF WACO WATER UTILITY SERVICES DROUGHT CONTINGENCY PLAN

Section I: Declaration of Policy, Purpose, and Intent

In order to conserve the available water supply and protect the integrity of water supply facilities, with particular regard to domestic water use, to sanitation and fire protection, and to protect and preserve public health, welfare, and safety to minimize the adverse impacts of water supply shortage or other water supply emergency conditions, the City of Waco hereby adopts the following regulations and restrictions on the delivery and consumption of water through Ordinance No. 2009–221. A copy is attached as appendix A.

Water uses regulated or prohibited under this Drought Contingency Plan (the Plan) are considered to be non-essential and continuation of such uses during times of water shortage or other emergency water supply condition are deemed to constitute a waste of water which subjects the offender(s) to penalties as defined in Section IX of this plan.

Section II: Public Involvement

Opportunity for the public to provide input into the preparation of the Plan was provided by the City of Waco by means of a public meeting and by publishing the Plan on the Water Utility Services website (www.wacowater.com). A public notice was provided regarding a public meeting, which was held to accept input on the Plan. Additionally, citizens were invited to send comments electronically after viewing the Plan online.

Section III: Public Education

The City of Waco will periodically provide the public with information about the Plan, including information about the conditions under which each stage of the Plan is to be initiated or terminated and the drought response measures to be implemented in each stage. This information will be provided by means of public events, press releases and/or utility bill inserts.

Section IV: Coordination with Regional Water Planning Groups

The service area of the City of Waco is located within the Brazos G Regional Water Planning Group. The City of Waco has provided a copy of this Plan to the Brazos G Regional Water Planning Group.

Section 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 drought or other water supply emergency response measures as described in this Plan.

Section VI: Application

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

Section 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 Waco.

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.

Mean Sea Level (msl): the level of the ocean's surface, especially the level halfway between high and low tide, used as a standard in reckoning land elevation or sea depths.

Non-essential water use: water uses that are neither 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.

Section VIII: Criteria for Initiation and Termination of Drought Response Stages

The City Manager or his/her designee shall monitor water supply and/or demand conditions on a daily basis and shall determine when conditions warrant initiation or termination of each stage of the Plan, that is, when the specified triggers are reached.

Criteria triggering the implementation of various stages of the Drought Contingency Plan, include, but are not limited to, the following:

1. General, geographical, or weather related condition or emergency, including but not limited to drought conditions resulting in a decrease in the Lake Waco reservoir level

2. Water system failures/emergencies (i.e., pressure zone deficiencies, chemical spills, broken water mains, power outages, electrical failures, failures of storage tanks or other equipment, treatment plant breakdown, and water contamination)

3. An inability to recover approximately ninety (90) percent of water stored in all Storage facilities within a defined period

4. A catastrophic decrease in the Lake Waco reservoir level and/or delivery capabilities resulting in an inability, presently or in the immediate future, to recover resources sufficient to provide services necessary for the public health and welfare

The level of the Lake Waco reservoir shall be determined based on the official reading by the U.S. Army Corps of Engineers and stated as an elevation above mean sea level (msl).

Triggering Stages

Generally. Upon the occurrence of an emergency, the City Manager may exercise his or her discretion to request special voluntary water restrictions and/or to initiate Stages 1 - 6 mandatory restrictions.

Stage 1 Triggers - Water Watch (Voluntary Reductions)

By May 1 of each year, the city will forecast water supply and potential water demands for May 1 through September 30 of that year. At this stage, citizens are encouraged to practice good water management techniques inside and outside the home, including such practices as cutting back on lawn sprinkler times and developing landscapes that require less water. Criminal penalties do not apply to voluntary reductions during the Water Watch stage.

Stage 2 Triggers – MILD Water Shortage

1. Criteria for implementation of Stage 2 – A decrease in the Lake Waco reservoir level to 452 msl (at which the reservoir is at about 60% of its capacity). Upon recommendation of the City Manager, Stage 2 response procedures shall become effective.

2. Criteria for termination - Stage 2 shall be terminated at the discretion of the City Manager.

Stage 2 Responses

Mandatory restrictions – Upon implementation by the city, the following restrictions shall apply unless specifically exempted:

1. The city shall limit use of water for municipal purposes to those activities necessary to maintain the public health, safety and welfare and any computer-controlled irrigation systems that incorporate evapotranspiration data in setting irrigation run times.

2. The city shall monitor "excessive watering" and issue notifications to customers. "Excessive watering" occurs where run-off extends for a distance greater than ten (10) feet from the customer's property or where there is washing or hosing down of buildings, sidewalks, driveways, patios, porches, parking surfaces or other paved surfaces. Criminal penalties do not apply during Stage 2 restrictions.

Stage 3 Triggers – MODERATE Water Shortage

1. Criteria for implementation of Stage 3 – A decrease in the Lake Waco reservoir level to 450 msl (at which the reservoir is at about 55% of its capacity) or inability to recover approximately ninety (90) percent of water

stored in all storage facilities within a twenty-four (24) hour period. Upon recommendation of the City Manager, Stage 3 response procedures shall become effective.

2. Criteria for termination - Stage 3 shall be terminated at the discretion of the City Manager.

Stage 3 Responses

Mandatory restrictions – Upon implementation by the city, the following restrictions shall apply unless specifically exempted:

1. All landscape and other outdoor water usage at each service address shall be limited to two days a week based on the last digit in the meter service address or the type of connection.

Last Digit Address Residential:	Allowed Landscape Water Days
Odd	Tuesday and Saturday
Even	Wednesday and Sunday
All Non-Residential accounts	Monday and Friday

Thursday – No Watering, Storage Recovery day

2. Apartments, office building complexes, or other properties containing multiple addresses, will be identified by the lowest physical street address number. Where there are no numbers, a number will be assigned by the Building Official.

Stage 4 Triggers – SEVERE Water Shortage

1. Criteria for implementation of Stage 4 – A decrease in the Lake Waco reservoir level to 446 msl (at which the reservoir is at about 45% of its capacity) or inability to recover approximately ninety (90) percent of water stored in all storage facilities within a thirty (30) hour period. Upon recommendation of the City Manager, Stage 4 procedures shall become effective.

2. Criteria for Termination – Stage 4 shall be terminated at the discretion of the City Manager.

Stage 4 Responses

Mandatory restrictions – Upon implementation by the city, the following restrictions shall apply unless specifically exempted:

1. All landscape and outdoor water usage at each service address shall continue the allowed landscape water days schedule identified in Stage 3;

however, landscape and outdoor water usage is prohibited from 5:00 A.M. to 9:00 A.M. and from 4:00 P.M. to 7:00 P.M.

2. Newly constructed swimming pools, Jacuzzis, spas, ornamental ponds, and fountains may be filled once.

3. Watering of newly installed landscaping is exempt from Stage 4 restrictions for no more than one (1) month from the date of planting. After the first month, the landscape water day's schedule and hourly restrictions must be followed.

4. Excessive water run-off from any landscaped area onto streets, alleys, or parking lots is prohibited. Run-off is excessive when it extends for a distance greater than ten (10) feet from the customer's property.

5. Washing or hosing down of buildings, sidewalks, driveways, patios, porches, parking areas, or other paved surfaces is prohibited.

6. Refilling after draining private swimming pools, Jacuzzis, spas, ornamental ponds, and fountains is prohibited. Refilling shall mean to replace more than twenty-five (25) percent of the facility's water capacity.

7. Washing or rinsing vehicles on owner's premises must follow the landscape water days schedule as set out above. A hand-held hose equipped with a positive shut-off nozzle and/or hand-held bucket must be used. (This includes boats, trailers, and other mobile vehicles and equipment.)

Exceptions:
(a) Commercial landscape nurseries are exempt from Stage 4 restrictions, but all such nurseries shall cease using water to clean pavement and sidewalk areas except for health and safety reasons.

(b) Commercial full-service or self-service car wash facilities, including those at service stations and automobile dealership facilities, shall cease using water to clean pavement and sidewalk areas except for health and safety reasons and are exempt from Stage 4 restrictions if they meet one or more of the following conditions:

(i) Commercial car wash facilities using conveyorized, touchless, and / or rollover in-bay technology if they reuse a minimum of fifty percent of water from previous vehicle rinses in subsequent washes.

(ii) Commercial car wash facilities using reverse osmosis to produce water rinse with a lower mineral content if they incorporate the

unused concentrate in subsequent vehicle washes.

(iii) Self-service spray wands used that emit no more than three gallons of water per minute.

(c) Drip irrigation systems and soaker hoses are exempt from Stage 4 restrictions; however, upon the implementation of Stage 4 restrictions, Stage 3 day and hour restrictions shall apply to such water usage.

(d) Golf course landscape watering is exempt from Stage 4 restrictions so long as golf course irrigation systems are operated with a computer controlled irrigation system that incorporates evapotranspiration data in setting irrigation run times.

Stage 5 Triggers – CRITICAL Water Shortage

1. Criteria for implementation of Stage 5 – A decrease in the Lake Waco reservoir level to 445 msl (at which the reservoir is at about 40% of its capacity) or inability to recover approximately ninety (90) percent in all storage facilities within a forty-eight (48) hour period. Upon recommendation of the City Manager, Stage 5 procedures shall become effective.

2. Criteria for termination - Stage 5 shall be terminated at the discretion of the City Manager.

Stage 5 Responses

Mandatory restrictions – Upon implementation by the city, the following restrictions shall apply unless specifically exempted:

1. The water supply is at the point of a severe water shortage. All landscape and outdoor water usage at each service address shall continue according to the landscape water days schedule identified below; however, landscape and outdoor water usage is prohibited from 5:00 A.M. to 9:00 A.M. and from 4:00 P.M. to 7:00 P.M.

Last Digit Address:	Allowed Landscape Water Day
0, 1	Monday
2, 3	Tuesday
4, 5	Wednesday
6, 7	Thursday
8, 9	Friday

Saturday and Sunday – No Watering, Storage Recovery days

2. Apartments, office building complexes, or other property containing multiple addresses will be identified by the lowest physical address number. Where there are no numbers, a number will be assigned by the Building Official.

3. Existing swimming pools, hot tubs, spas, ornamental ponds and fountains may be replenished with a hand-held hose to maintain operational purposes only.

4. Permitting of new swimming pools, hot tubs, spas, ornamental ponds or fountain construction is **prohibited**, except that those previously permitted or under construction at the time Stage 5 restrictions are initiated may complete construction and may be filled one time only.

5. Filling occurs when an amount of water equal to at least seventy-five (75) percent of the water capacity is placed in the structure or facility.

6. Excessive water run-off from any landscaped area onto streets, alleys, or parking lots is prohibited. Run-off is excessive when it extends for a distance greater than ten (10) feet from the customer's property.

7. Washing or hosing down of buildings, sidewalks, driveways, patios, porches, parking areas, or other paved surfaces is prohibited.

8. Commercial landscape nurseries are subject to Stage 5 and must apply for any variance. Alternative irrigations schedules may be approved under a variance if the variance meets all of the requirements of Section 26-99 Variances.

Stage 6 Triggers – EMERGENCY Water Shortage

1. Requirements for implementation of Stage 6 – A decrease in the Lake Waco reservoir level to 440 msl (at which the reservoir is at about 30% of its capacity) or determination by the City Manager that the existence of catastrophically decreasing Lake reservoir levels and/or delivery capabilities with an inability to recover to provide services necessary for public health, safety, and welfare.

2. Criteria for termination – Stage 6 shall be terminated at the discretion of the City Manager.

Stage 6 Responses

Mandatory restrictions – Upon implementation by the city, the following restrictions shall apply unless specifically exempted:

1. Any and all outdoor/landscaping water usage is prohibited until the emergency is alleviated. This applies to all metered water users using the city's public water supply and includes all residential (single or multi-family), commercial (car wash, nurseries, business), recreational (public/private golf courses, parks, athletic fields), religious, health care, school and municipal entities.

2. Use of water for municipal purposes shall be limited to only those activities necessary to maintain the public health, safety and welfare, as determined by the city.

3. Use of water from fire hydrants is prohibited except for fire fighting and related activities.

Section IX: Enforcement

1. No person shall intentionally, knowingly, or recklessly or with criminal negligence allow the use of water from the city for residential, commercial, industrial, agricultural, governmental, or any other purpose in a manner contrary to any provision of this Division or in an amount in excess of that permitted by the drought response stage in effect at the time pursuant to action taken by the city, in accordance with provisions of this Division.

2. Any person, including a person classified as a water customer of the city, in apparent control of the property where a violation occurs or originates shall be presumed to be the violator, and proof that the violation occurred on the person's property shall constitute a rebuttable presumption that the person in apparent control of the property committed the violation, but any such person shall have the right to show that he/she did not commit the violation. Parents shall be presumed to be responsible for violations of their minor children, but any such parent may be excused if he/she proves that he/she had previously directed the child not to use the water as it was used in violation of this plan and that the parent could not have reasonably known of the violation. Proof that the notices required under Section 26-94 have been given shall constitute a rebuttal presumption that the person has knowledge of and/or is aware of the declaration of a drought or emergency contingency stage, but such presumption may be rebutted by evidence that the person was out of city at the time of the declaration and could not reasonably have become aware of the declaration since returning to the city.

3. Any person who violates this Division is guilty of a misdemeanor and upon conviction shall be punished by a fine as provided in Section 1-14, General Penalty. Each day that one or more of the provisions in this plan is violated shall constitute a separate offense.

4. If a person is observed violating a Stage 4 or greater, including but not limited to vehicle washing, landscape watering, or construction water use, for a second time, the city shall, upon due notice to the customer, be authorized to discontinue water service to the premises where such

violations occur.

5. If a person is convicted of three (3) or more distinct violations of this Division, the city shall, upon due notice to the customer, be authorized to discontinue water service to the premises where such violations occur.

6. Services discontinued under such circumstances shall be restored only upon payment of reconnection charge established by city policy and any other costs incurred by the city in discontinuing service. In addition, suitable assurance must be given to the city that the same action shall not be repeated while the plan is in effect.

7. The City is entitled to pursue all other criminal and civil remedies to which it is entitled under statutes or other ordinances. Compliance with this Division may also be sought through injunctive relief in the district court.

Section X: Variances

1. A customer may file an application for a variance from this plan for the property receiving water service with the City Manager. The City Manager may determine the proper information and require that the applicant provide such information to evaluate the variance request.

2. The City Manager may grant a variance from the Plan upon his/her determination that special circumstances exist that upon strict enforcement of the plan will adversely affect the health, sanitation, or fire protection for the public or the applicant.

3. Variances granted under this section will expire upon escalation of the plan to the next higher phase or termination of the plan.

Brazos River Authority

Drought Contingency Plan

October 29, 2012

Prepared by:
Brazos River Authority
Waco, Texas

Drought Contingency Plan

Table of Contents

Tables

Appendices

Brazos River Authority
Waco, Texas
Drought Contingency Plan
October 29, 2012

1. Introduction

As a wholesale water supplier, the Brazos River Authority (BRA) adopts this Drought Contingency Plan (Plan) in conformance with the rules governing drought contingency plans for wholesale water providers set forth by the Texas Commission on Environmental Quality (TCEQ) in *Texas Administrative Code* Title 30, Part 1, Rule §288.22, *Drought Contingency Plans for Wholesale Water Suppliers*. Appendix A includes a copy of the TCEQ rules governing drought contingency plans for wholesale water providers. This Plan, date October 29, 2012, supersedes the previous plan dated June 5, 2007.

2. Provisions to Actively Inform the Public and Provide Opportunity for Input

The BRA has taken the following steps to actively inform the public and affirmatively provide opportunity for user input in the preparation of the Plan and to inform wholesale customers about the Plan:

- Placing a draft of the Plan on the BRA's Web site at www.brazos.org and inviting comments on the draft Plan.
- Discussing the Plan at the BRA's annual customer meetings conducted in July 2012.
- Sending a letter to all wholesale water customers and Regional Water Planning Groups discussing the draft Plan, mentioning where it could be found on the BRA's Web site, offering copies to those who did not wish to access the draft Plan on the Web site, and soliciting comments (Appendix B includes a copy of the letter sent to wholesale customers and Appendix C includes a copy of the letter sent to Regional Water Planning Groups).
- Providing written notice to the public concerning the draft Plan and inviting their comments (written notice is provided by posting with the Secretary of State's office and on the BRA official Web site).

3. Coordination with Regional Water Planning Groups

The BRA has statutory responsibility for conserving and developing the water resources of the Brazos River Basin in Texas and making them available for beneficial use. The Brazos River Basin covers approximately 47,000 square miles, with 44,440 in Texas (all or part of 70 counties) and slightly over 2,500 in New Mexico. The BRA's service area includes the Brazos River Basin in Texas. The BRA also supplies water outside of the Brazos River Basin to San Jacinto-Brazos Coastal Basin and a small part of the Trinity Basin.

The BRA has directed each of the Regional Water Planning Groups located within its service area (Region B, Region C, Region F, Region G, Region H, Region K, and Region O) to the draft Plan located on the BRA official Web site. Appendix C includes an example of the letter sent to the Regional Water Planning Groups.

4. Information to be Monitored and Criteria for the Initiation and Termination of Drought Response Stages

The BRA's general manager/chief executive officer (GM/CEO) or designee shall monitor water supply and demand conditions. The triggering criteria described below are based on hydrologic analyses and reservoir operations experience including lessons learned from the 2011 drought. Individual lake elevation triggers apply to Lakes Aquilla, Belton, Granger, Limestone, Proctor, and Somerville. For the Possum Kingdom Lake-Lake Granbury-Lake Whitney sub-system and the Lake Stillhouse Hollow-Lake Georgetown sub-system, drought stage trigger levels are based on their respective combined volumes. Additional triggers associated with the transfer of water from Lake Stillhouse Hollow to Lake Georgetown apply to Lake Georgetown.

Reservoir levels are continuously monitored by the BRA. The BRA, its customers, and other interested parties are all responsible for determining when lake levels approach important elevations associated with specific water supply intake structures. A table of critical elevations for customer water supply intake structures is contained in Appendix D.

Four levels of drought severity, as shown in Table 1, have been identified at which specific actions will be conducted. Each of the four levels includes recommendations for specific drought response actions that may be tailored to conditions as they exist at the time. Details on each of the four drought stages are also discussed. Elevation-Capacity Tables based on estimated 2015 sedimentation conditions are contained in Appendix E

House Bill 1437, passed by the Texas legislature in 1999, allows the BRA to contract with the Lower Colorado River Authority (LCRA) for up to 25,000 acre-feet of water from the Colorado River Basin (LCRA water) for use in Williamson County. For the LCRA water, drought stage trigger levels are based on the combined conservation storage of Lakes Buchanan and Travis as stipulated in the LCRA Drought Contingency Plan, as contained in Chapter 4 of LCRA's Water Management Plan, as well as LCRA's Drought Contingency Rules, LCRA's Raw Water Contract Rules related to Pro Rata Curtailment, and LCRA's TCEQ-approved Pro Rata Curtailment Plan.

The BRA will comply with the LCRA for water used under the LCRA contract. Table 2 includes the LCRA Drought Contingency Plan triggers.

Table 1. - Drought Severity Triggers[1]			
Status	**Surface Elevation[4]**	**Water Storage[4]**	**Reservoir Drawdown**
	(ft msl)	**(acre-feet)**	**(ft)**
Lake Aquilla			
Top of Conservation (full)	537.5	43,715	0
Stage 1 Drought Watch	533.6	33,661	3.9
Stage 2 Drought Warning	530.1	25,573	7.4
Stage 3 Drought Emergency	525.8	17,486	11.7
Stage 4 Pro-rata Curtailment	523.1	13,385	14.4
Lake Belton			
Top of Conservation (full)	594	430,443	0
Stage 1 Drought Watch	587.2	357,268	6.8
Stage 2 Drought Warning	577.9	264,722	16.1
Stage 3 Drought Emergency	565.8	172,177	28.2
Stage 4 Pro-rata Curtailment	549.4	86,089	44.6
Lake Granger			
Top of Conservation (full)	504	49,161	0
Stage 1 Drought Watch	501.8	42,278	2.2
Stage 2 Drought Warning	498.3	30,971	5.7
Stage 3 Drought Emergency	493.7	19,664	10.3
Stage 4 Pro-rata Curtailment	489.7	12,321	14.3
Lake Limestone			
Top of Conservation (full)	363	199,882	0
Stage 1 Drought Watch	357.5	145,914	5.5
Stage 2 Drought Warning	354.7	118,933	8.3
Stage 3 Drought Emergency	351.4	91,953	11.6
Stage 4 Pro-rata Curtailment	346.2	57,657	16.8
Lake Proctor			
Top of Conservation (full)	1162	54,649	0
Stage 1 Drought Watch	1158.2	39,347	3.8
Stage 2 Drought Warning	1155.7	31,012	6.3
Stage 3 Drought Emergency	1152.3	22,677	9.7
Stage 4 Pro-rata Curtailment	1149.8	17,375	12.2
Lake Somerville			
Top of Conservation (full)	238	142,844	0
Stage 1 Drought Watch	234.8	114,275	3.2
Stage 2 Drought Warning	231.6	85,706	6.4
Stage 3 Drought Emergency	227.8	57,138	10.2
Stage 4 Pro-rata Curtailment	223.9	33,780	14.1

Table 1. - Continued. Drought Severity Triggers[1]			
Status	**Surface Elevation[2]**	**Water Storage[2]**	**Reservoir Drawdown**
	(ft msl)	**(acre-feet)**	**(ft)**
Lake Possum Kingdom, Lake Granbury, Lake Whitney[3]			
Top of Conservation (full)	N/A[4]	700,759[5]	N/A[4]
Stage 1 Drought Watch	N/A[4]	561,290[5]	N/A[4]
Stage 2 Drought Warning	N/A[4]	420,968[5]	N/A[4]
Stage 3 Drought Emergency	N/A[4]	280,645[5]	N/A[4]
Stage 4 Pro-rata Curtailment	N/A[4]	140,323[5]	N/A[4]
Lake Georgetown, Lake Stillhouse Hollow			
Top of Conservation (full)	N/A[4]	262,503[6]	N/A[4]
Stage 1 Drought Watch	N/A[4]	220,503[6]	N/A[4]
Stage 2 Drought Warning	N/A[4]	162,752[6]	N/A[4]
Stage 3 Drought Emergency	N/A[4]	105,001[6]	N/A[4]
Stage 4 Pro-rata Curtailment	N/A[4]	52,501[6]	N/A[4]
Brazos River Authority System			
Top of Conservation (full)	N/A[4]	1,883,761	N/A[4]
Stage 1 Drought Watch	N/A[4]	1,514,536	N/A[4]
Stage 2 Drought Warning	N/A[4]	1,140,639	N/A[4]
Stage 3 Drought Emergency	N/A[4]	766,741	N/A[4]
Stage 4 Pro-rata Curtailment	N/A[4]	413,416	N/A[4]

1. Triggers, excluding the Possum Kingdom-Granbury-Whitney System, derived for estimated year 2015 sedimentation conditions, 2015 demands and current return flows.
2. Elevation-Capacity Tables are contained in Appendix E.
3. Triggers derived for estimated year 2020 sedimentation conditions and 2020 demands. Operations in accordance with the Possum Kingdom-Granbury Water Management Study were also considered in the development of the triggers.
4. Surface elevation and reservoir drawdown are not applicable because reservoirs are operated as a system. Their combined storage is a better drought indicator than individual elevations because elevations in each reservoir can be influenced by other reservoirs within the system. For example, water can be transferred from Lake Stillhouse Hollow to Lake Georgetown through a pipeline that connects the two lakes. Stillhouse Hollow could be completely full while Lake Georgetown was 15 feet low, or Georgetown could be completely full with Stillhouse Hollow being 2.5 feet low, and in both cases, the collective capacity of the reservoirs is 94% full. Using combined storage instead of individual reservoir elevations for the trigger levels allows the operation of the pipeline to be taken into account.
5. Storages shown are for the combined conservation pool storage volume of Lakes Possum Kingdom, Granbury, and Whitney; BRA storage in Lake Whitney is limited to 50,000 acre-feet.
6. Storages shown are for the combined conservation pool storage volume of Lakes Stillhouse Hollow and Georgetown.

Table 2. LCRA Drought Triggers		
2010 Water Management Plan - Drought Triggers		
When water in the lake is ...	**On this date ...**	**Action prescribed in 2010 Water Management Plan**
Lake Travis and Buchanan are full at 2.011 million acre-feet		
Less than 94 percent full	Jan. 1 or July 1	Interruptible supplies cease for all customers except irrigation operations.
Less than 1.7 million acre-feet	Jan. 1	Environmental releases for bays and estuaries are reduced to meet 150 percent of critical (to the extent of storable inflows).
Less than 1.4 million acre-feet	At any time	Request firm customers to implement voluntary water use reduction measures to achieve a 5 percent reduction in use.
Less than 1.4 million acre-feet	Jan. 1	Begin gradual curtailment of interruptible supply to irrigation operations. Amount of curtailment increases when water storage levels are lower. Environmental releases for instream flows are reduced to meet critical needs.
Less than 1.1 million acre-feet	Jan. 1	Environmental releases for bays and estuaries are reduced to meet critical needs.
900,000 acre-feet	At any time	Request firm customers to implement mandatory conservation restrictions. Meet with customers to develop curtailment plan should drought worsen.
600,000 acre-feet	At any time	If criteria indicate that drought is worse than the Drought of Record, then begin pro rata curtailment of firm supply after ceasing interruptible supply (timing based on duration of drought).
325,000 acre-feet	Jan. 1	No interruptible supply available.
200,000 acre-feet	At any time	No interruptible supply available.

LCRA encourages its firm water customers to implement long-term, year-round water conservation measures to meet the goals included in their water conservation plans. LCRA has an ongoing public awareness campaign on water use and conservation.

Stage 1 – Drought Watch Condition

Requirements for Initiation – The BRA's GM/CEO or his/her designee may initiate a Drought Watch Condition in one or more of the following circumstances:

- For a reservoir/reservoir sub-system when the Palmer Hydrologic Drought Index (PHDI) is equal to or less than -2. The PHDI for each reservoir/reservoir sub-system is derived monthly.

- For a reservoir/reservoir sub-system, when the content of that reservoir/reservoir sub-system is at or below its corresponding Stage 1 Trigger (Table 1) and reasonable estimates of current annual demands, coupled with inflows and evaporation representative of the drought of record, indicate that the content could be reduced to the Stage 2 Trigger or less during the next 12 months.

- For a reservoir, group of reservoirs, or the entire BRA System when the combined storage of the BRA System is below the Stage 1 System Storage Trigger (Table 1) and reasonable estimates of current annual demands, coupled with inflows and evaporation representative of the drought of record, indicate that the combined system storage could be reduced to the Stage 2 System Storage Trigger or less during the next 12 months.

- For Lake Georgetown (in addition to triggers shown in Table 1),

    - When sustained pumping operations through the Williamson County Regional Raw Water Line (WCRRWL) continue for longer than one month.
    - As deemed appropriate due to disruption in WCRRWL pumping operations.

- For LCRA water, when the combined storage of Lakes Buchanan and Travis drops below 1.4 million acre-feet and interruptible stored water supplies to the irrigation operations are being curtailed.

- For a reservoir, group of reservoirs, or the entire BRA System when an unexpected condition has the potential to adversely affect the public health, welfare or safety.

Requirements for Termination – The BRA's GM/CEO or his/her designee may terminate a Drought Watch Condition when any of the reasons for initiation have ceased to exist for a period of 30 consecutive days or other relevant factors determined by the BRA's GM/CEO or designee.

To terminate a Drought Watch Condition for LCRA water, the BRA will comply with the LCRA Drought Contingency Plan, as contained in Chapter 4 of LCRA's Water Management Plan, as well as LCRA's pro rata curtailment plan and rules for water sale contracts.

Stage 2 – Drought Warning Condition

Requirements for Initiation – The BRA's GM/CEO or his/her designee may initiate a Drought Warning Condition in one or more of the following circumstances:

- For a reservoir/reservoir sub-system, when the content of that reservoir/reservoir sub-system is at or below its corresponding Stage 2 Trigger (Table 1) and reasonable estimates of current annual demands, coupled with inflows and evaporation representative of the drought of record, indicate that the content could be reduced to the Stage 3 Trigger or less during the next 12 months.

- For a reservoir, group of reservoirs, or the entire BRA System when the combined storage of the BRA System is below the Stage 2 System Storage Trigger (Table 1) and reasonable estimates of current annual demands, coupled with inflows and evaporation representative of the drought of record, indicate that the combined system storage could be reduced to the Stage 3 System Storage Trigger or less during the next 12 months.

- For Lake Georgetown (in addition to triggers shown in Table 1),

- When sustained WCRRWL pumping operations continue for longer than 12 months.
- As deemed appropriate due to disruption in WCRRWL pumping operations.

- For LCRA water, when the combined storage of Lakes Buchanan and Travis is below 900,000 acre-feet and interruptible stored water supplies to the irrigation operations are being curtailed.

- For a reservoir, group of reservoirs, or the entire BRA System when an unexpected condition has the potential to adversely affect the public health, welfare or safety.

Requirements for Termination – The BRA's GM/CEO or his/her designee may terminate a Drought Warning Condition when any of the reasons for initiation have ceased to exist for a period of 30 consecutive days or other relevant factors determined by the BRA's GM/CEO or designee. Upon termination of a Drought Warning, a Drought Watch may become operative depending on conditions at the time.

To terminate a Drought Warning Condition for LCRA water, the BRA will comply with the LCRA Drought Contingency Plan, as contained in Chapter 4 of LCRA's Water Management Plan, as well as LCRA's pro rata curtailment plan and rules for water sale contracts.

Stage 3 – Drought Emergency Condition

Requirements for Initiation – The BRA's GM/CEO or his/her designee may initiate a Drought Emergency Condition in one or more of the following circumstances:

- For a reservoir/reservoir sub-system, when the content of that reservoir/reservoir sub-system is at or below its corresponding Stage 3 Trigger (Table 1) and reasonable estimates of current annual demands, coupled with inflows and evaporation representative of the drought of record, indicate that the content could be reduced to the Stage 4 Trigger within the next 12 months.

- For a reservoir, group of reservoirs, or the entire BRA System when the combined storage of the BRA System is below the Stage 3 System Storage Trigger (Table 1) and reasonable estimates of current annual demands, coupled with inflows and evaporation representative of the drought of record, indicate that the combined system storage could be reduced to the Stage 4 System Storage Trigger within the next 12 months.
- For a reservoir/reservoir sub-system, when critical water supply infrastructure is damaged or otherwise rendered unable to meet projected demands due to natural disaster, power outage, structural failure, sabotage, or other reasons.
- For Lake Georgetown (in addition to triggers shown in Table 1),

- When the GM/CEO or his/her designee determines that hydrologic conditions (inflow and/or evaporation) are as severe as or worse than the driest 24-month period on record.
- As deemed appropriate due to disruption in WCRRWL pumping operations.

- For LCRA water, when LCRA, in accordance with its Water Management Plan, declares a Drought Worse than the Drought of Record.

- For a reservoir, group of reservoirs, or the entire BRA System when an unexpected condition has the potential to adversely affect the public health, welfare or safety.

Requirements for Termination – The BRA's GM/CEO or his/her designee may terminate a Drought Emergency Condition when any of the reasons for initiation have ceased to exist for a period of 30 consecutive days or other relevant factors determined by the BRA's GM/CEO or designee. Upon termination of a Drought Emergency, a Drought Warning or Drought Watch may become operative depending on conditions at the time.

To terminate a Drought Emergency Condition for LCRA water, the BRA will comply with the LCRA Drought Contingency Plan, as contained in Chapter 4 of LCRA's Water Management Plan, as well as LCRA's pro rata curtailment plan and rules for water sale contracts.

Stage 4 – Pro-rata Curtailment Condition

Requirements for Initiation – The BRA's GM/CEO or his/her designee may initiate a pro-rata Curtailment Condition in one or more of the following circumstances:

- For a reservoir/reservoir sub-system, when the content of that reservoir/reservoir sub-system is at or below its corresponding Stage 4 Trigger (Table 1).

- For a reservoir, group of reservoirs, or the entire BRA System when the combined storage of the BRA System is below the Stage 4 System Storage Trigger (Table 1).

- For Lake Georgetown (in addition to triggers shown in Table 1) as deemed appropriate by the BRA's GM/CEO or his/her designee due to disruption in WCRRWL pumping operations.

- For a reservoir, group of reservoirs, or the entire BRA System when an unexpected condition has the potential to adversely affect the public health, welfare or safety.

Requirements for Termination – The BRA's GM/CEO or his/her designee may terminate a pro-rata Curtailment Condition when any of the reasons for initiation have ceased to exist for a period of 30 consecutive days or other relevant factors determined by the BRA's GM/CEO or designee. Upon termination of a Pro-rata Curtailment, a Drought

Emergency, Drought Warning or Drought Watch may become operative depending on conditions at the time.

5. Procedures to be followed for Initiation and Termination of Drought Response Stages

Initiation of a Drought Response Stage

The BRA's GM/CEO or his/her designee may order the implementation of a Drought Response Stage when the trigger conditions for that stage are met. The following actions will be taken when a drought stage is initiated:

- The public will be notified through the appropriate media and the BRA Web site.
- Customers will be notified by telephone with a follow-up letter/fax or e-mail.
- Meetings will be held with customers as appropriate.
- The Executive Director of the TCEQ will be notified within five (5) business days.

The BRA's GM/CEO or his/her designee may decide not to order the implementation of a Drought Response Stage even though 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, the anticipation of replenished water supplies or the anticipation that additional facilities will become available to meet needs. The reason for this decision should be documented.

Termination of a Drought Response Stage

The BRA's GM/CEO or his/her designee may order the termination of a drought response stage when the conditions for termination are met or at his/her discretion. The following actions will be taken when a drought stage is terminated:

- The public will be notified through local media and the BRA Web site.
- Wholesale customers will be notified by telephone with a follow-up letter/fax or e-mail.
- The Executive Director of the TCEQ will be notified within five (5) business days.

The BRA's GM/CEO or his/her designee may decide not to order the termination of a drought response stage even though the conditions for termination of the stage 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 stage. The reason for this decision should be documented.

6. Drought Response Stages, Measures to be Implemented and Goals for Use Reduction

The BRA will notify the Executive Director of the TCEQ within five (5) business days when any Drought Stage is declared under this plan. In turn and in compliance with Title 30, *Texas Administrative Code*, Chapter 288, Subchapter B, Rule §288.22 *(b)* (included in Appendix A), the BRA's customers are required to notify the Executive Director of the TCEQ within five (5) business days of any mandatory actions that are subsequently implemented under their respective drought contingency plans.

Stage 1 – Drought Watch Condition

The Stage 1, Drought Watch condition, is intended to raise customer and public awareness of potential drought problems. For water supplied from the Brazos River System, there is a voluntary target reduction goal of five percent (5) of the use that would have occurred in the absence of drought contingency measures. For LCRA water, there is a voluntary target reduction goal of five percent (5), as indicated in Table 2. The BRA's GM/CEO or his/her designee may perform or request implementation of any of the actions listed below, as deemed necessary:

- Inform customers of the drought watch condition and request them to inform their customers, if any.
- Notify customers of actions being taken and urge activation by customers of appropriate water conservation measures to achieve the target water use reduction goal.
- Meet with customers to discuss current drought and possible measures to be taken if the drought intensifies.
- Initiate Stage 1 or equivalent of customer drought contingency plans, if available.
- Intensify efforts on leak detection and repair.
- Reduce nonessential water use.
- Initiate voluntary landscape watering schedules.
- Verify the location, depth and operational requirements of intake structures.
- Increase public education efforts on ways to reduce water use.
- Investigate alternative ways to supply needs that could be implemented if the drought intensifies.
- In cooperation with customers, initiate the preparation of a specific drought response plan tailored to conditions as they exist at the time.
- Implement appropriate provisions of the specific drought response plan.

- Contact the TCEQ, United States Geological Survey (USGS) and US Army Corps of Engineers. Inform them of the situation and request appropriate actions from each, such as closer monitoring to protect releases, more frequent gage inspections to reflect actual flow conditions more accurately or a greater effort to meet exact release requests.

- Other actions as deemed appropriate for the given situation.

Stage 2 – Drought Warning Condition

For water supplied from the Brazos River System, the goal for water use reduction under a Stage 2, Drought Warning condition, is a ten percent (10) reduction of the use that would have occurred in the absence of drought contingency measures. If circumstances warrant, the BRA's GM/CEO or his/her designee may modify this goal. For LCRA water, the target reduction goal is ten (10) to twenty (20) percent as indicated in Table 2. The BRA's GM/CEO or his/her designee may perform or request implementation of any of the actions listed below, as deemed necessary:

- Inform customers of the Drought Warning Condition and request that they inform their customer, if any.

- Notify customers of actions being taken and urge activation by customers of appropriate water conservation measures to achieve the target water use reduction goal.

- Meet with customers to discuss the current drought and possible measures to be taken.

- Initiate Stage 2 or equivalent of customer drought contingency plans, if available.

- Encourage the public to wait until the current drought has passed before establishing new landscaping.

- Initiate mandatory landscape and outdoor water use restrictions needed to achieve the water use reduction goal.

- Initiate engineering studies to evaluate alternative actions if conditions worsen.

- Further accelerate public education efforts on ways to reduce water use.

- In cooperation with BRA customers, develop or update the specific drought response plan tailored to conditions as they exist at the time.

- Implement appropriate provisions of the specific drought response plan.

- For LCRA firm water, begin discussions with LCRA to develop a specific curtailment plan, consistent with LCRA's TCEQ-approved Pro Rata Curtailment Plan and LCRA's Raw Water Rules related to pro rata curtailment.

- For LCRA firm water, any landscape water schedule used to implement restrictions should restrict daytime outdoor water use and not allow the irrigation of landscaping to occur more than twice a week.

- Implement other measures identified by the BRA and its customers.

Stage 3 – Drought Emergency Condition

For water supplied from the Brazos River System, the goal for water use reduction under a Stage 3, Drought Emergency Condition, is a total reduction of twenty percent (20) in the use that would have occurred in the absence of any drought contingency measures. If circumstances warrant, the BRA's GM/CEO or his/her designee may modify this goal. For LCRA water, the LCRA will implement a mandatory pro-rata curtailment of a minimum of twenty percent (20) as indicated in Table 2. If the combined storage of Lakes Buchanan and Travis continue to drop below 600,000 acre-feet, the mandatory pro-rata curtailment percentage may be increased as determined by the LCRA Board of Directors. The BRA's GM/CEO or his/her designee may perform or request implementation of any of the actions listed below, as deemed necessary:

- Continue actions commenced under Stages 1 and 2.

- Inform customers of the Drought Emergency Condition and request that they inform their customers, if any.

- Notify customers of actions being taken and urge activation by customers of appropriate water conservation measures to achieve the target water use reduction goal.

- Require BRA customers to cease diversion and use of water under Interruptible Water Availability Agreements.

- Cease the sale of water by the BRA under Interruptible Water Availability Agreements.

- Limit or restrict the temporary assignment of water by BRA customers to third parties in accordance with the terms of the underlying contracts.

- In cooperation with BRA customers, develop or update the specific drought response plan tailored to conditions as they exist at the time.

- Implement appropriate provisions of the specific drought response plan.

- Meet with customers to discuss the current drought and measures to be taken.

- Initiate the drought emergency or equivalent stage in customer drought contingency plans as necessary to meet the target water use reduction goal.

- Initiate mandatory water use restrictions such as prohibiting hosing of paved areas, buildings or windows, prohibiting operation of ornamental fountains, prohibit washing or rinsing of vehicle by hose and prohibiting water use in such a manner as to allow runoff or other waste.

- Limit landscape watering at each service address.

- Prohibit draining and filling of existing swimming pools and filing of new swimming pools (pools may add water to replace losses during normal use).

- Prohibit establishment of new landscaping.

- Prohibit all outdoor watering including hand held hoses.

- Implement viable alternative water supply strategies (this may require prior approval of the TCEQ).

- Coordinate with customers regarding the pro-rata curtailment process in the event that drought conditions persist or intensify and a Pro-rata Curtailment Condition is initiated.

Stage 4 – Pro-rata Curtailment Condition

Under Stage 4, Pro-rata Curtailment Condition, the BRA's customers will be required to implement a mandatory pro-rata curtailment of a minimum of thirty percent (30) in the use that would have occurred in the absence of any drought contingency measures for water use reduction, pursuant to *Texas Water Code* §11.039 (Appendix G). If circumstances warrant, the BRA's GM/CEO or his/her designee may alter the mandatory pro-rata curtailment percentage. All uses of water for Interruptible Water Availability Agreements in the affected part of the system will be terminated prior to and during any mandatory pro-rata curtailment of water use under long-term contracts.

The general process under which the BRA will make water available during a pro-rata curtailment in accordance with *Texas Water Code* §11.039 is described below:

- Determine amount of water to be made available during pro-rata curtailment.

  The amount of water made available to all affected customers with long-term contracts will be reduced by an equal percentage from the customers' reasonable demands. The determination of a customer's available supply during a curtailment will be based on the following:

  - Actual water use from a dry 12-month period (the "Reference Year") will serve as the default "Baseline Amount" to which pro-rata reductions would be applied. The Baseline Amount cannot exceed a customer's

annual contracted quantity and would follow a typical pattern of water use.

- The Baseline Amount is subject to adjustment based upon conditions that caused a customer's water use in the Reference Year to be reduced, including, but not limited to:
  - implementation of water conservation or drought contingency measures during the Reference Year which resulted in quantified and documented savings;
  - new growth that has since resulted in increases to customer's reasonable demands;
  - plant outages or other incidents that reduced demand; or
  - customer did not hold a water supply contract for the entire Reference Year.
- The amount of water to be made available to a customer during a curtailment (Annual Allotment) will be equal to the Baseline Amount, less the percentage curtailment ordered by the BRA's GM/CEO or his/her designee.

- Implementation of pro-rata Curtailment

In the event that the BRA orders a pro-rata curtailment, the order will include the pro-rata percentage curtailment which will apply to each customer's Baseline Amount. If conditions change while pro-rata curtailment is in effect, the curtailment percentage may be adjusted by the GM/CEO or his/her designee.

During a pro-rata curtailment, customers will be required to use no more than their Annual Allotment. Non-compliance will be considered as a breach of contract per the terms of each customer's water supply agreement, and will be handled as such.

- Cessation of pro-rata Curtailment

In the event that the BRA implements pro-rata curtailment under Stage 4 of this Plan, conditions will be specified under which the curtailment will be lifted.

7. Required Provision on Distribution of Water in Case of Shortage in BRA Contracts

As required by Title 30 of the *Texas Administrative Code* §288.22(a)(7), the BRA shall include a provision in every water contract entered into or renewed after adoption of the Plan, including contract extensions, indicating that in case of a shortage of water resulting from drought the water will be divided in accordance with the provisions of *Texas Water Code* §11.039.

8. Provisions for Granting Variances

The BRA's GM/CEO or his/her designee may grant a temporary variance to the requirements of 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, or
- 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, or
- Alternative methods can be implemented which will achieve the same level of reduction in water use.

Variances shall be granted or denied at the discretion of the BRA's GM/CEO or his/her designee. All petitions for variances should be in writing and should include the following information:

- Name and address of the petitioner(s).
- Purpose of water use.
- Specific provisions from which relief is requested.
- Detailed statement of the adverse effect of the provision from which relief is requested.
- Description of the relief requested.
- Period of time for which the variance is sought.
- Alternative measures that will be taken to reduce water use.
- Other pertinent information.

For LCRA water, LCRA may consider a temporary variance to the pro rata water allocation requirement in accordance with LCRA's Drought Contingency Plan.

9. Procedures for Implementation and Enforcement

Appendix F is a copy of the BRA's Board resolution approving this Plan. Compliance with this Plan, as amended from time to time, is a condition in the BRA's water supply agreements. Failure to comply with the Plan is a violation of the water supply agreement provision and will be treated as such.

10. Review and Update

The BRA shall review this Plan at least every five (5) years and shall update as appropriate based on new or updated information.